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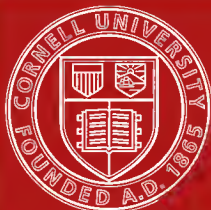
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VOCATIONS

*SETTING FORTH THE VARIOUS PHASES OF THE MECHANIC
ARTS, HOME-MAKING, FARMING AND WOODCRAFT, BUSI-
NESS, THE PROFESSIONS OF LAW, MINISTRY AND
MEDICINE, PUBLIC SERVICE, LITERATURE AND
JOURNALISM, TEACHING, MUSIC, PUBLIC
ENTERTAINMENT AND THE FINE
ARTS ∴ WITH PRACTICAL
INTRODUCTIONS BY A
CORPS OF ASSOCI-
ATE EDITORS*

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NATHAN HASKELL DOLE, CAROLINE TICKNOR
AND ALBERT WALTER TOLMAN, A.M.

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TEN VOLUMES RICHLY ILLUSTRATED

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DYEING YARN

VOCATIONS, in Ten Volumes
William DeWitt Hyde, Editor-in-Chief

BUSINESS

EDITED BY
ANDREW CARNEGIE, LL.D.

VOLUME IV



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CONTENTS

	PAGE
LIST OF COLORED ILLUSTRATIONS	xi
INTRODUCTION	xiii
BY ANDREW CARNEGIE, LL.D.	
THE GENERAL PRINCIPLES OF BUSINESS	
HOW I SERVED MY APPRENTICESHIP	1
BY ANDREW CARNEGIE, LL.D.	
THE HISTORIES OF TWO BOYS	13
BY H. IRVING HANCOCK.	
THRIFT	19
BY THEODORE T. MUNGER, D.D.	
SUCCESS IN BUSINESS	32
BY GRACE GREELEY.	
WEALTH AND ITS USES	39
BY ANDREW CARNEGIE, LL.D.	
WOMEN IN BUSINESS	52
BY FRED LESLIE HOWARD.	
THE PROGRESS OF A GENTLEMAN	62
BY GEORGE MABON.	
WOMEN WHO WORK	84
BY JULIET WILBOR TOMPKINS.	
WHAT BUSINESS MEANS TO ME	97
BY JEREMIAH DWYER.	
ANALYSIS AS AN AID TO BUSINESS	103
BY JOHN H. HANAN.	
COÖPERATIVE TRADING	114
BY J. W. STANNARD.	
COLLEGE MEN IN BUSINESS	125
BY H. J. HAPGOOD.	
THE CONTRACTOR'S ORGANIZATION	136
BY KENDALL BANNING.	
ADVERTISING	144
BY M. M. GILLAM.	
THE SELLING PROCESS	153
BY C. L. CHAMBERLIN.	
THE SALESMAN	159
BY NATHANIEL C. FOWLER, JR.	
PERSONALITY IN THE WORKING FORCE	169
BY GEORGE H. BARBOUR.	

	PAGE
THE CAMPAIGN THAT FORGOT QUALITY By LEE MACQUODDY.	178
IMAGINATION IN BUSINESS By LORIN F. DELAND.	190
GREAT INDUSTRIES	
THE BUSINESS OF A FACTORY By PHILIP G. HUBERT, JR.	204
THE STORY OF STEEL By FRANK FAYANT.	215
THE ARMOURS' PACKING INDUSTRY By ARTHUR GRAYDON.	227
THE STORY OF OIL By HAROLD J. HOWLAND.	236
THE RUBBER INDUSTRY By HENRY CLEMENS PEARSON.	254
THE LUMBER INDUSTRY By W. J. MUNN.	263
CANNING AND PRESERVING By FREDERIC WILLIAMS.	276
PUBLISHING By F. N. DOUBLEDAY.	286
INSURANCE By CHARLES F. TEWING, S.T.D., LL.D.	293
A GREAT HOTEL By JESSE LYNCH WILLIAMS.	303
REAL ESTATE By WILLIAM CHESEBROUGH.	319
THE BOOT AND SHOE INDUSTRY By WILLIAM R. STEWART.	327
THE AMERICAN WATCH INDUSTRY By C. MONTOMERY M'GOVERN.	336
STENOGRAPHY AND TYPEWRITING By WILLIAM DRYSDALE.	346
THE FIVE AND TEN CENT STORE By FRANKLIN A. STOTE.	355
THE DEPARTMENT STORE By HARTLEY DAVIS.	367
CONQUEROR OF THE ROCKIES By CHALMERS LOWELL PANCOAST.	377
BANKING By BRADFORD RHODES.	386
THE WAY TO WEALTH By BENJAMIN FRANKLIN.	392
SUPPLEMENTARY READINGS	402

LIST OF COLORED ILLUSTRATIONS

DYEING YARN	<i>Frontispiece</i>
ARTIFICIAL FLOWERS	<i>Face page</i> 58
DESIGNING WALL PAPERS.	90
SHIPBUILDING	138
CROSSING THE GREAT LAKES	162
THE BESSEMER PROCESS	218
SMOKING RUBBER	258
HAULING THE BIG LOGS	274
THE GUNNISON IRRIGATION CANAL	322
A MOUNTAIN TUNNEL	378

INTRODUCTORY LETTER¹

By

ANDREW CARNEGIE, LL.D.

DEAR DR. HYDE:—

I have lookt over this fine collection of good things and can not but wish that the youth of our country had the forthcoming book as a constant companion. They will find in many directions instruction, wise counsels and lofty ideals. I am sure they will not find anything of the baser sort.

One parting word to the young men and others who read this book. We hear much of forgiveness and of the dangerous belief that we can do wrong and yet that it will pass away without effect. There never was a greater mistake; the eternal laws mete out justice and know neither wrath nor pardon. We are all weaving webs in this life and if we mar that web by any act, the fault passes into the fabric, and the web is never unwound, nor is the fault obliterated; there it remains.

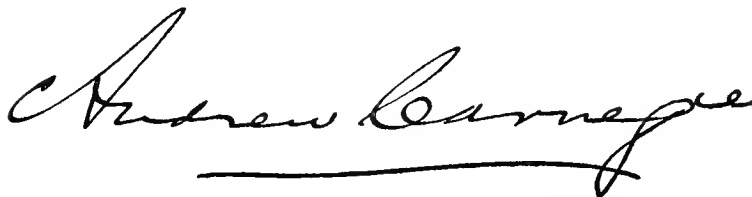
Of course, being what we are, our work is never without imperfections, but the good that we do should so far counterbalance the evil that the character remains and is approv'd.

Amid much that the reader will find in human life that is saddening, let him always remember this — that from the erliest time until now, man has marcht upward, stedily upward to the lite; his face is turn'd to the sun; that there is no pause in the ascent nor any limit to the

¹ Simplified spelling.

hight to which he can attain. This is our great hope thru life and we can say truly to ourselves "All is well, since all grows better."

Always very truly yours,

A handwritten signature in cursive script that reads "Andrew Carnegie". The signature is written in black ink and is positioned above a horizontal line that serves as a separator between the signature and the typed address below.

2 EAST 91ST STREET, NEW YORK

April 19, 1910

BUSINESS

HOW I SERVED MY APPRENTICESHIP¹

BY ANDREW CARNEGIE

IT is a great pleasure to tell how I served my apprenticeship as a business man. But there seems to be a question preceding this: Why did I become a business man? I am sure that I should never have selected a business career if I had been permitted to choose.

The eldest son of parents who were themselves poor, I had, fortunately, to begin to perform some useful work in the world while still very young, in order to earn an honest livelihood, and was thus shown even in early boyhood that my duty was to assist my parents and, like them, become as soon as possible a bread-winner in the family. What I could get to do, not what I desired, was the question.

When I was born my father was a well-to-do master-weaver in Dunfermline, Scotland. He owned no less than four damask-looms and employed apprentices. This was before the days of steam-factories for the manufacture of linen. A few large merchants took orders, and employed master weavers such as my father, to weave the cloth, the merchants supplying the materials.

As the steam factory system developed hand-loom weav-

¹ From "The Empire of Business," Copyright, 1902, by Doubleday, Page & Company.

ing naturally declined, and my father was one of the sufferers by the change. The first serious lesson of my life came to me one day when he had taken in the last of his web to the merchant, and returned to our little home greatly distressed because there was no more work for him to do. I was just about ten years of age, but the lesson burned into my heart, and I resolved then that the wolf of poverty should be driven from our door some day, if I could do it.

The question of selling the old looms and starting for the United States came up in the family council, and I heard it discussed from day to day. It was finally resolved to take the plunge and join relatives already in Pittsburg. I well remember that neither father nor mother thought the change would be otherwise than a great sacrifice for them, but that "it would be better for the two boys."

In after life, if you can look back as I do and wonder at the complete surrender of their own desires which parents make for the good of their children, you must reverence their memories with feelings akin to worship.

On arriving in Allegheny City (there were four of us — father, mother, my younger brother, and myself), my father entered a cotton factory. I soon followed, and served as a "bobbin-boy," and this is how I began my preparation for subsequent apprenticeship as a business man. I received one dollar and twenty cents a week, and was then just about twelve years old.

I cannot tell you how proud I was when I received my first week's own earnings. One dollar and twenty cents made by myself and given to me because I had been of some use in the world! No longer entirely dependent upon my parents, but at last admitted to the family partnership as a contributing member and able to help

them ! I think this makes a man out of a boy sooner than anything else, and a real man, too, if there be any germ of true manhood in him. It is everything to feel that you are useful.

I have had to deal with great sums. Many millions of dollars have since passed through my hands. But the genuine satisfaction I had from that one dollar and twenty cents outweighs any subsequent pleasure in money-getting. It was the direct reward of honest manual labor; it represented a week of very hard work — so hard that, but for the aim and end which sanctified it, slavery might not be much too strong a term to describe it.

For a lad of twelve to rise and breakfast every morning, except the blessed Sunday morning, and go into the streets and find his way to the factory and begin to work while it was still dark, and not be released until after darkness came again in the evening, forty minutes' interval only being allowed at noon, was a terrible task.

But I was young and had my dreams, and something within always told me that this would not, could not, should not last — I should some day get into a better position. Besides this, I felt myself no longer a mere boy, but quite a little man, and this made me happy.

A change soon came, for a kind old Scotchman, who knew some of our relatives, made bobbins, and took me into his factory before I was thirteen. But here for a time it was even worse than in the cotton factory, because I was set to fire a boiler in the cellar, and actually to run the small steam-engine which drove the machinery. The firing of the boiler was all right, for fortunately we did not use coal, but the refuse wooden chips; and I always liked to work in wood. But the responsibility of keeping the water right and of running the engine, and the danger

of my making a mistake and blowing the whole factory to pieces, caused too great a strain, and I often awoke and found myself sitting up in bed through the night trying the steam-gages. But I never told those at home that I was having a hard tussle. No, no! everything must be bright to them.

This was a point of honor, for every member of the family was working hard, except, of course, my little brother, who was then a child, and we were telling each other only all the bright things. Besides this, no man would whine and give up — he would die first.

There was no servant in our family, and several dollars per week were earned by the mother by binding shoes after her daily work was done! Father was also hard at work in the factory. And could I complain?

My kind employer, John Hay, — peace to his ashes! — soon relieved me of the undue strain, for he needed some one to make out bills and keep his accounts, and finding that I could write a plain schoolboy hand and could “cipher,” he made me his only clerk. But I still had to work hard up-stairs in the factory, for the clerking took but little time.

You know how people moan about poverty as being a great evil, and it seems to be accepted that if people had only plenty of money and were rich, they would be happy and more useful, and get more out of life.

As a rule, there is more genuine satisfaction, a truer life, and more obtained from life in the humble cottages of the poor than in the palaces of the rich. I always pity the sons and daughters of rich men, who are attended by servants, and have governesses at a later age, but am glad to remember that they do not know what they have missed.

They have kind fathers and mothers, too, and think

that they enjoy the sweetness of these blessings to the fullest: but this they can not do; for the poor boy who has in his father his constant companion, tutor, and model, and in his mother — holy name! — his nurse, teacher, guardian angel, saint, all in one, has a richer, more precious fortune in life than any rich man's son who is not so favored can possibly know, and compared with which all other fortunes count for little.

It is because I know how sweet and happy and pure the home of honest poverty is, how free from perplexing care, from social envies and emulations, how loving and how united its members may be in the common interest of supporting the family, that I sympathize with the rich man's boy and congratulate the poor man's boy; and it is for these reasons that from the ranks of the poor so many strong, eminent, self-reliant men have always sprung and always must spring.

If you will read the list of the immortals who "were not born to die," you will find that most of them have been born to the precious heritage of poverty.

It seems, nowadays, a matter of universal desire that poverty should be abolished. We should be quite willing to abolish luxury, but to abolish honest, industrious, self-denying poverty would be to destroy the soil upon which mankind produces the virtues which enable our race to reach a still higher civilization than it now possesses.

I come now to the third step in my apprenticeship, for I had already taken two, as you see — the cotton factory and then the bobbin factory; and with the third, — the third time is the charm, you know, — deliverance came. I obtained a situation as messenger-boy in the telegraph office of Pittsburg when I was fourteen. Here I entered a new world.

Amid books, newspapers, pencils, pens and ink and

writing pads, in a clean office with bright windows, and a literary atmosphere, I was the happiest boy alive.

My only dread was that I should some day be dismissed because I did not know the city; for it is necessary that a messenger-boy should know all the firms and addresses of men who are in the habit of receiving telegrams. But I was a stranger in Pittsburg. However, I made up my mind that I would learn to repeat successively each business house in the principal streets, and was soon able to shut my eyes and begin at one side of Wood Street, and call every firm successively to the top, and then pass to the other side and call every firm to the bottom. Before long I was able to do this with the business streets generally. My mind was then at rest upon that point.

Of course every ambitious messenger-boy wants to become an operator, and before the operators arrived in the early mornings, the boys slipped up to the instruments and practiced. This I did, and was soon able to talk to the boys in the other offices along the line, who were also practicing.

One morning I heard Philadelphia calling Pittsburg, and giving the signal, "Death message." Great attention was then paid to "death messages," and I thought I ought to try to take this one. I answered and did so, and went off and delivered it before the operator came. After that the operators sometimes used to ask me to work for them.

Having a sensitive ear for sound, I soon learned to take messages by the ear, which was then very uncommon — I think only two persons in the United States could then do it. Now every operator takes by ear, so easy is it to follow and do what any other boy can — if you only have to. This brought me into notice, and

finally I became an operator, and received the, to me, enormous recompense of twenty-five dollars per month — three hundred dollars a year!

This was a fortune — the very sum that I had fixed when I was a factory-worker as the fortune I wished to possess, because the family could live on three hundred dollars a year and be almost or quite independent. Here it was at last ! But I was soon to be in receipt of extra compensation for extra work.

The six newspapers of Pittsburg received telegraphic news in common. Six copies of each despatch were made by a gentleman who received six dollars per week for the work, and he offered me a gold dollar every week if I would do it, of which I was very glad indeed, because I always liked to work with news and to scribble for newspapers.

The reporters came to a room every evening for the news which I had prepared, and this brought me into the most pleasant intercourse with these clever fellows, and besides, I got a dollar a week as pocket money, for this was not considered as family revenue by me.

I think this last step of doing something beyond one's task is fully entitled to be considered "business." The other revenue, you see, was just salary obtained for regular work; but here was a little business operation upon my own account, and I was very proud indeed of my gold dollar every week.

The Pennsylvania Railroad shortly after this was completed to Pittsburg, and that genius, Thomas A. Scott, was its superintendent. He often came to the telegraph office to talk to his chief, the general superintendent, at Altoona, and I became known to him in this way.

When that great railway system put up a wire of its own, he asked me to be his clerk and operator; so I left

the telegraph office — in which there is great danger that a young man may be permanently buried, as it were — and became connected with the railways.

The new appointment was accompanied by what was, to me, a tremendous increase of salary. It jumped from twenty-five to thirty-five dollars per month. Mr. Scott was then receiving one hundred and twenty-five dollars per month, and I used to wonder what on earth he could do with so much money.

I remained for thirteen years in the service of the Pennsylvania Railroad Company, and was at last superintendent of the Pittsburg division of the road, successor to Mr. Scott, who had in the meantime risen to the office of vice-president of the company.

One day Mr. Scott, who was the kindest of men, and had taken a great fancy to me, asked if I had or could find five hundred dollars to invest.

Here the business instinct came into play. I felt that as the door was open for a business investment with my chief, it would be wilfully flying in the face of Providence if I did not jump at it; so I answered promptly:

“Yes, sir; I think I can.”

“Very well,” he said, “get it; a man has just died who owns ten shares in the Adams Express Company which I want you to buy. It will cost you fifty dollars per share.”

Here was a queer position. The available assets of the whole family were not five hundred dollars. But there was one member of the family whose ability, pluck, and resource never failed us, and I felt sure the money could be raised somehow or other by my mother.

Indeed, had Mr. Scott known our position he would have advanced it himself; but the last thing in the world the proud Scot will do is to reveal his poverty and rely upon others. The family had managed by this time to

purchase a small house and pay for it in order to save rent. My recollection is that it was worth eight hundred dollars.

The matter was laid before the council of three that night, and the oracle spoke: "Must be done. Mortgage our house. I will take the steamer in the morning for Ohio and see uncle, and ask him to arrange it. I am sure he can." This was done. Of course her visit was successful — where did she ever fail?

The money was procured, and paid over; ten shares of Adams Express Company stock was mine; but no one knew our little home had been mortgaged "to give our boy a start."

Adams Express stock then paid monthly dividends of one per cent, and the first check for ten dollars arrived. I can see it now, and I well remember the signature of "J. C. Babcock, Cashier," who wrote a big "John Hancock" hand.

The next day being Sunday, we boys — myself and my ever-constant companions — took our usual Sunday afternoon stroll in the country, and sitting down in the woods, I showed them this check, saying, "Eureka! we have found it."

Here was something new to all of us, for none of us had ever received anything but from toil. A return from capital was something strange and new.

How money could make money, how, without any attention from me, this mysterious golden visitor should come, led to much speculation upon the part of the young fellows, and I was for the first time hailed as a "capitalist."

You see, I was beginning to serve my apprenticeship as a business man in a satisfactory manner.

A very important incident in my life occurred when,

one day in a train, a nice, farmer-looking gentleman approached me, saying that the conductor had told him I was connected with the Pennsylvania Railroad, and he would like to show me something. He pulled from a small green bag the model of the first sleeping-car. This was Mr. Woodruff, the Inventor.

Its value struck me like a flash. I asked him to come to Altoona the following week, and he did so. Mr. Scott, with his usual quickness, grasped the idea. A contract was made with Mr. Woodruff to put two trial cars on the Pennsylvania Railroad. Before leaving Altoona Mr. Woodruff came and offered me an interest in the venture which I promptly accepted. But how I was to make my payments rather troubled me, for the cars were to be paid for in monthly instalments after delivery, and my first monthly payment was to be two hundred and seventeen dollars and a half.

I had not the money, and I did not see any way of getting it. But I finally decided to visit the local banker and ask him for a loan, pledging myself to repay at the rate of five dollars per month. He promptly granted it. Never shall I forget his putting his arm over my shoulder, saying, "Oh, yes, Andy; you are all right!"

I then and there signed my first note. Proud day this; and surely now no one will dispute that I was becoming a "business man." I had signed my first note, and, most important of all, — for any fellow can sign a note, — I had found a banker willing to take it as "good."

My subsequent payments were made by the receipts from the sleeping cars, and I really made my first considerable sum from this investment in the Woodruff Sleeping-Car Company, which was afterward absorbed by Mr. Pullman — a remarkable man whose name is now known over all the world.

Shortly after this I was appointed superintendent of the Pittsburg division, and returned to my dear old home, smoky Pittsburg. Wooden bridges were then used exclusively upon the railways and the Pennsylvania Railroad was experimenting with a bridge built of cast-iron. I saw that wooden bridges would not do for the future, and organized a company in Pittsburg to build iron bridges.

Here again I had recourse to the bank, because my share of the capital was twelve hundred and fifty dollars, and I had not the money; but the bank lent it to me, and we began the Keystone Bridge Works, which proved a great success. The company built the first great bridge over the Ohio River, three hundred feet span, and has built many of the most important structures since.

This was my beginning in manufacturing; and from that start all our other works have grown, the profits of one building the other. My "apprenticeship" as a business man soon ended, for I resigned my position as an officer of the Pennsylvania Railroad Company to give exclusive attention to business.

I was no longer merely an official working for others upon a salary, but a full-fledged business man working upon my own account.

I never was quite reconciled to working for other people. At the most, the railway officer has to look forward to the enjoyment of a stated salary, and he has a great many people to please; even if he gets to be president, he has sometimes a board of directors who cannot know what is best to be done; and even if this board be satisfied, he has a board of stockholders to criticise him, and as the property is not his own, he cannot manage it as he pleases.

I always liked the idea of being my own master, of manufacturing something and giving employment to many

men. There is only one thing to think of manufacturing if you are a Pittsburger, for Pittsburg even then had asserted her supremacy as the "Iron City," the leading iron- and steel-manufacturing city in America.

So my indispensable and clever partners, who had been my boy companions, I am delighted to say, — some of the very boys who had met in the grove to wonder at the ten dollar check, — began business, and still continue extending it to meet the ever-growing and ever-changing wants of our most progressive country, year after year.

Always we are hoping that we need expand no farther; yet ever we are finding that to stop expanding would be to fall behind; and even to-day the successive improvements and inventions follow each other so rapidly that we see just as much yet to be done as ever.

When the manufacturer of steel ceases to grow he begins to decay, so we must keep on extending. The result of all these developments is that three pounds of finished steel are now bought in Pittsburg for two cents, which is cheaper than anywhere else on the earth, and that our country has become the greatest producer of iron in the world.

And so ends the story of my apprenticeship and graduation as a business man.

THE HISTORIES OF TWO BOYS¹

By H. IRVING HANCOCK

EMERSON prefaced his essay on "Compensation" with the remark that he had always wanted to write upon that subject. There is a true story on compensation from the salary view-point that I have always wanted to write, and now I am going to do it. The two young men to whom the story refers were schoolboy friends of mine. I know the facts in the case of each and can tell the story with exactitude.

These two boys may be called Smith and Brown. They were graduated in the same year from the same high school. They had been chums, more or less, for years, and decided to start in the turmoil of life in the same business house, if possible. Positions were secured in the largest dry-goods store in Boston. More than that, both young men were assigned to work as tyro salesmen behind the lace counter.

"This is n't much of a place," remarked Brown, rather dubiously.

"'T is not a bad place," returned Smith, consolingly, "and we're getting five dollars a week to start with. Not very bad pay for boys!"

There were long hours to be served and the work was hard. There were many impatient customers to be waited upon. As both boys lived some twenty minutes' walk from the store they walked home together in the evening.

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“Pretty slow life, this!” grumbled Brown. “Think of the pay we’re getting.”

“It’s not bad for youngsters,” rejoined Smith. “It might be worse.”

Neither boy had any living expense to pay, save for noonday luncheon and laundry. Smith brought his luncheon; Brown did not. Smith began a bank account; Brown went to dances as often as he could afford the money. He soon found other pastimes, of evenings, that absorbed all his money and what he could borrow from his father. Naturally the two boys began to drift apart, except for that little evening walk home. Brown began to grumble at what he termed the slowness of promotion.

“It will come all right,” returned Smith, “if we work for it.”

At the end of the first year Brown observed:—

“I guess you’re right. My pay has been raised a dollar a week. A fine return for hard work, is n’t it? Did you get a raise?”

“Yes; I’ve been raised to seven.”

Brown whistled his amazement, looked very thoughtful for a few moments, and then blurted out:—

“That’s a sample of the favoritism that goes on in the business world. Whom did you get on the right side of?”

“I don’t know,” answered Smith, and he told the truth.

“I’m going to find out about this,” grumbled the other boy and he did. The department manager supplied the information. While both boys had done everything of a routine nature that was required of them it had been noticed that Smith was always more anxious to please customers in all the ways possible to a salesman.

But the matter rankled in Brown’s mind. He was brooding over the thing one day when a woman customer

approached the lace counter and inquired for a certain make of lace.

"Sorry; haven't got it," said Brown, briefly. In a second Smith was at his side, whispering: —

"Jack, you'll find it on the third lower shelf down."

Turning, Brown went to the shelf indicated, found the goods, produced them, and made a sale. As soon as the customer departed the manager, who had been looking on, stepped up and asked: —

"Brown, why don't you learn to know your goods?"

"I can't remember everything, sir."

"Smith seems to be able to do so," said the department manager, as he moved away.

That remark about knowing one's goods struck deep in the mind of the listening Smith. He had already a very good knowledge of the laces that he had to sell, but he went to the department manager and said: —

"I would like your permission to cut a small sample from every one of the laces in the department."

"What do you want of them?"

"I want to take the samples home and study them evenings. I want if possible, to become so familiar with every make and pattern of lace that I could tell it by touch in the dark."

"Take the samples," was the brief reply.

After a few weeks of patient evening study, aided by the use of a microscope, Smith discovered that he knew three times as much about laces as he had ever expected to know. Out of his savings he bought a powerful hand magnifying glass which he carried with him daily to the store. By degrees he became able to demonstrate to customers the relative values of the different laces. The department manager looked on approvingly and added all the information in his power.

At the end of the second year Brown's salary remained at six dollars. Smith's pay had been increased to ten.

"Favoritism!" snapped Brown. "I wonder, Fred, why the manager can't see anything in me. I work as hard as you do."

"Not in the evenings," was the quiet answer. "I spend most of my evening time studying the laces. Why don't you do the same? You're a good fellow, and willing. Come up to the house with me to-night and after supper I'll show you some of the things I've been studying."

"Can't do it," replied Brown; "got an engagement."

There was an evening high school course in chemistry. Deciding that he knew as much as he was able to learn about the fibers of every kind of lace sold in the store, Smith decided to take up chemistry in the hope that he could learn something more about laces. The course was elementary, but he applied himself with so much diligence that the professor soon began to take an especial interest in him. Then the young man explained what he wanted most to learn.

"Stop a few minutes every evening after the class is dismissed," advised the professor. "Bring samples of your laces with you and I'll see what help I can give you."

All through the winter, Smith toiled away at chemistry. He learned how to make tests of the lace fibers that were impossible with the microscope alone. One day a lot of samples of laces came in from abroad. Some of these the young man, after using his glass, considered spurious. He took them home that evening and applied the chemical tests. The next morning he reported to the department manager, a successor to the one under whom he

had first been employed, that the samples were of spurious goods.

"Why don't you mind your own business?" was the irritable retort; "these samples are all right."

But Smith, saying nothing, went to the superintendent and made a statement of what he had discovered.

"How on earth do you know this?" demanded the young man's superior.

"Professor Boeckmann has been instructing me in chemical tests of thread fibers for several months."

"I'll think this matter over," said the superintendent, briefly. He did, even to the extent of communicating with the professor. The result was that the new department manager was dismissed and Smith, after some urging, took his place, at a comparatively low beginning salary of thirty dollars a week. Brown, who was now receiving eight dollars a week, had begun to feel positive dislike for his more successful friend.

Three more years went by. Smith drew forty-five dollars a week, while his erstwhile friend had gone up to ten. The buyer for the lace department, who had grown old and wished to retire, was about to make his last trip to Ireland and France for laces. He requested that Smith should go with him.

"You always have been lucky," growled Brown, when he heard the news. "You're off for a fine trip abroad, with all expenses paid, and I suppose you're going to have your salary raised?"

"Pitch in and study, Jack," whispered Smith. "I've three days yet before I sail. Come around and I'll get you started."

"Sorry, but I can't, old fellow. I've got engagements for every night this week."

Two months later Smith returned to the store, strolled

through it, and went up to the lace counter. Brown stood there, looking most disconsolate. His face brightened up, however, as he saw his friend approaching.

“Fred,” he whispered, excitedly, “I guess you can do me a big favor. I’ve been discharged. The fellow they put in your place has told me I’m through Saturday. Said a man who had been here so long and who was only worth ten dollars a week wasn’t worth keeping. I suppose, though,” — enviously, — “you’ve had another raise of pay?”

“Yes. Mr. Stallman, the foreign lace buyer, has retired, and I’ve been put in his place. I’m to begin with four thousand a year and traveling expenses.”

Brown threw up his hands in a gesture that expressed a variety of emotions.

“Favoritism!” he muttered, scowling at the ceiling.

THRIFT ¹

By THEODORE T. MUNGER



WE have so long been told that we are a thrifty people that we go on assuming it as a fact without fresh examination. Thrift is more apt to be a phase than a characteristic of the life of a nation, — a habit than a principle. That we are thrifty because our ancestors were no more follows than that the ship that sails out of the harbor stanch and tight will be sound when she returns from a long and stormy voyage. It was not from any instinct or natural trait that our forefathers were thrifty, but from a moral necessity. The Celt is naturally thrifty. The Anglo-Saxon is thrifty only when there is some strong motive behind or before him; he is thrifty for a reason; and this certainly is the best foundation of the virtue.

The early settlers found themselves here in circumstances out of keeping with their characters, — rich in one and poor in the other, and so set about overcoming the discrepancy. Their large and noble conceptions of man required that he should be well housed and cared for. Dr. Holmes says: "I never saw a house too fine to shelter the human head. Elegance fits man." When Nero built his palace of marble and ivory and gold, he said, "This is a fit house for a man."

The scientists tell us that environment and life stand in a relation of necessity; they certainly stand in the

¹ From "On the Threshold," by permission of Harriet K. Munger and Houghton Mifflin Company. Copyright, 1885.

relation of fitness. The strong, divinely nourished common sense of our fathers perceived this, and they husbanded as earnestly as they prayed. They could give up all for a cause, and take no thought for the morrow, if the occasion required, but they knew how to discriminate between the rare occasion of total self-sacrifice and the conduct of every-day life. Consequently thrift early got a strong hold.

New England has had two great inspiring minds, — Jonathan Edwards and Benjamin Franklin. Far apart in spirit and character, they formed a grand unity in their influence. One taught religion, the other thrift; one clarified theology, the other taught the people how to get on. Edwards tided New England over the infidelity that prevailed in the last century; Franklin created the wealth that feeds society to-day by inspiring a passion for thrift. Hence, for a century, irreligion and beggary were equally a reproach, and still in no country in the world is the latter held so vile.

But these two formative influences are evidently waning. Nor is it to be altogether regretted. Both were too austere to be perpetually healthful; neither regarded the breadth and scope of human nature. The danger is lest the ebb be excessive, and its method be exchanged for others not so sure and wholesome. Thrift pertains to details. It is alike our glory and our fault that we are impatient of details. Our courage prompts to risks, our large-mindedness invites to great undertakings; both somewhat adverse to thrift, — one essentially, and the other practically, — because great undertakings are for the few, while thrift is for all. Large enterprises make the few rich, but the majority prosper only through the carefulness and detail of thrift. To speak of it as a Scylla and Charybdis voyage, — while shunning the jaws

of waste, there is danger of drifting upon the rocks of meanness. I say frankly, if either fate is to befall us, I would rather it were not the last.

I begin by insisting on the importance of having money. Speculate and preach about it as we will, the great factor in society is money. As the universe of worlds needs some common force like gravitation to hold them together and keep them apart, so society requires some dominating passion or purpose to hold its members in mutual relations. Money answers this end. Without some such general purpose or passion, society would be chaotic; men could not work together, could achieve no common results, could have no common standards of virtue and attainment. Bulwer says: "Never treat money affairs with levity; money is character." And indeed character for the most part is determined by one's relation to money. Find out how one gets, saves, spends, gives, lends, borrows, and bequeathes money, and you have the character of the man in full outline. "If one does all these wisely," says Henry Taylor, "it would almost argue a perfect man."

Nearly all the virtues play about the use of money, — honesty, justice, generosity, charity, frugality, forethought, self-sacrifice. The poor man is called to certain great and strenuous virtues, but he has not the full field of conduct open to him as it is to the man of wealth. He may undergo a very deep and valuable discipline, but he will not get the full training that a rich man may. St. Paul compassed the matter in knowing how to *abound* as well as how to suffer want. Poverty is a limitation all the way through; it is good only as in all evil there is "a soul of goodness." Mr. Jarvis says, "Among the poor there is less vital force, a lower tone of life, more ill health, more weakness, more early death."

If poverty is our lot, we must bear it bravely, and contend against its chilling and stifling influences; but we are not to think of it as good, or in any way except as something to be avoided or got rid of, if honor and honesty permit it. I wish I could fill every young man who reads these pages with an utter dread and horror of poverty. I wish I could make you so feel its shame, its constraint, its bitterness, that you would make vows against it. You would then read patiently what I shall say of thrift. You may already have a sufficiently ill opinion of poverty, but you may not understand that one is already poverty-stricken if his habits are not thrifty. Every day I see young men — well dressed, with full purses and something of inheritance awaiting them — as plainly foredoomed to poverty as if its rags hung about them.

The secret of thrift is forethought. Its process is saving for use; it involves also judicious spending. The thrifty man saves: savings require investments in stable and remunerative forms; hence that order and condition of things that we call civilization, which does not exist until one generation passes on the results of its labors and savings to the next.

Thus thrift underlies civilization as well as personal prosperity. The moment it ceases to act society retrogrades towards savagery, the main feature of which is absence of forethought. A spendthrift or idler is essentially a savage: a generation of them would throw society back into barbarism. There is a large number of young men — chiefly to be found in cities — who rise from their beds at eleven or twelve; breakfast in a club-house; idle away the afternoon in walking or driving; spend a part of the evening with their families, the rest at some place of amusement or in meeting the engagements of society,

bringing up at the club-house or some gambling den or place of worse repute; and early in the morning betake themselves to bed again. They do no work; they read but little; they have no religion; they are as a class vicious. I depict them simply to classify them. These men are essentially savages. Except in some slight matters of taste and custom, they are precisely the individuals Stanley found in Central Africa, with some advantages in favor of the African.

The chief distinction between civilization and barbarism turns on thrift. Thrift is the builder of society. Thrift redeems man from savagery.

What are its methods?

(1.) I name the first in one word, — *save*. Thrift has no rule so imperative and without exception. If you have an allowance, teach yourself on no account to exhaust it. The margin between income and expenditure is sacred ground, and must not be touched except for weightiest reasons. But if you are earning a salary, — it matters not how small, — plan to save some part of it. If you receive seventy-five cents per day, live on seventy; if one dollar, spend but ninety; you save thirty dollars a year, — enough to put you into the category of civilization. But he who spends all must not complain if we set him down logically a savage. Your saving is but little, but it represents a feeling and a purpose, and, small as it is, it divides a true from a spurious manhood.

Life in its last analysis is a struggle. The main question for us all is, Which is getting the advantage, self or the world? When one is simply holding his own, spending all he earns, and has nothing between himself and this "rough world," he is in a fair way to be worsted in the battle. He inevitably grows weaker, while the pitiless world keeps to its pitch of heavy exaction.

There is a sense of strength and advantage springing from however slight gains essential to manly character.

It is a great part of this battle of life to keep a good heart. The prevailing mood of the poor is that of sadness. Their gayety is forced and fitful. Their drinking habits are the cause and result of their poverty. There is no repose, no sense of adequacy, no freedom, after one has waked up to the fact that he is poor. It takes but little to redeem one from this feeling. The spirit and purpose of saving thrift change the whole color of life.

It can hardly be expected that you will look ahead twenty or forty years, and realize the actual stings of poverty and the sharper stings of thriftless habits; but it may be expected that you will see why it is wiser and more manly to save than to spend. There is a certain fascinating glamor about the young man who spends freely; whose purse is always open, whether deep or shallow; who is always ready to foot the bills; who says *yes* to every proposal, and produces the money. I have known such in the past, but as I meet them now I find them quite as ready to foot the bills, but generally unable to do so. I have noticed also that the givers, and the benefactors of society, had no such youthhood. This popular and fascinating young man is in reality a very poor creature; very interesting he may be in the matter of drinks, and billiards, and theater tickets, and sleigh-rides, and clothes, and club-rates; but when he earns five or eight or ten hundred dollars a year and spends it chiefly in this way, would charity itself call him anything but a fool? The boys hail him a royal good fellow, and the girls pet him, but who respects him?

I do not write of him with any hope of bettering him; he is of the class of whom it is said that an experience in a mortar would be a failure. I speak to a higher grade

of intelligence. The painful fact, however, is to be recognized, that the saving habit is losing ground. The reasons are evident: city and country are one. The standards of dress, amusements, and life generally are set in the richer circles of the metropolis, and are observed, at whatever cost, in all other circles. I can do nothing to offset these influences but to remind you of nobler methods. I can only say that to spend all one earns is a mistake; that while to spend, except in a severe and judicious way, weakens character, economy dignifies and strengthens it.

The habit of saving is itself an education. It fosters every virtue. It teaches self-denial. It cultivates a sense of order. It trains to forethought, and so broadens the mind. It reveals the meaning of the word *business*, which is something very different from its routine. One may know all the forms of business, even in a practical way, without having the business characteristic. Were a merchant to choose for a partner a young man thoroughly conversant with the business, but having expensive, self-indulgent personal habits, or one not as yet versed in its details, but who knows how to keep a dollar when he has earned it, he would unhesitatingly take the latter. The habit of saving, while it has its dangers, even fosters generosity. The great givers have been great savers. The miserly habit is not acquired but is inborn. Not there lies the danger. The divinely-ordered method of saving so educates and establishes such order in the man, and brings him into so intelligent a relation to the world, that he becomes a benefactor. It is coarse thinking to confound spending with generosity, or saving with meanness.

(2.) I vary the strain but little when I say, Avoid a self-indulgent spending of money.

The great body of young men in our country are in the receipt of such incomes that the question whether a thing can be afforded or not becomes a highly rational inquiry. With incomes ranging from a dollar or less per day to a thousand dollars a year, there is room for the play of that wise word, *afford*. I think it tends to shut out several things that are very generally indulged in. I have no intention of saying anything here against the pleasant habit of smoking, except to set it in the light of this common-sense word, *afford*. Your average salaries are, say, five hundred dollars. If you smoke cigars, your smallest daily allowance will be two, costing at least twenty cents, — I assume that you do not degrade yourselves by using the five-cent article, — more than seventy dollars a year. If it were fifty, it would be a tenth of your salary. The naked question for a rational being to consider is, Can I afford to spend a tenth or seventh of my income in a mere indulgence? What has common sense to say to the proportion? Would not this amount, lodged in some sound investment, contribute rather more to self-respect? Ten years of such expenditure represent probably a thousand dollars, for there is an inevitable ratio of increase in all self-indulgent habits; fifty years represent five thousand, — more than most men will have at sixty-five, who began life with so poor an understanding of the word *afford*. Double these estimates, and they will be all the truer.

I do not propose in these pages to enter on a crusade against tobacco, but I may remind you that the eye of the world is fixed on the tobacco habit with a very close gaze. The educators in Europe and America are agreed that it impairs mental energy. Life-insurance companies are shy of its peculiar pulse. Oculists say that

it weakens the eyes. Physicians declare it to be a prolific cause of dyspepsia, and hence of other ills. The vital statistician finds in it an enemy of virility. It is asserted by the leading authorities in each department that it takes the spring out of the nerves, the firmness out of the muscles, the ring out of the voice; that it renders the memory less retentive, the judgment less accurate, the conscience less quick, the sensibilities less acute; that it relaxes the will, and dulls every faculty of body and mind and moral nature, dropping the entire man down in the scale of his powers, and so is to be regarded as one of the wasters of society. I do not undertake to affirm all these propositions, but only to show how the social critics of the day are regarding the subject.

The habit of drinking is so nearly parallel with smoking in its relation to thrift that it need not detain us. The same cogent word *afford* applies here with stronger emphasis, because the drinking habit involves a larger ratio of increase. Waiving any moral considerations involved in beer drinking, the fact of its *cost* should throw it out. The same startling figures we have used are more than true here. It is not a thrifty habit, and no young man who has his way to make in the world is entitled to an unthrifty habit. It is idle to repeat the truisms of the theme. We have heard till we cease to heed that drink is the great waster of society. Great Britain spends annually two hundred and fifty millions of dollars in drink. Our own statistics are nearly as bad. It is the one thing — even if it does not reach the proportions of a vice — that keeps more men out of a competence than all other causes combined. The twin habits of smoking and beer-drinking stand for a respectable property to all who indulge in them, — a thing

the greater part will never have, though they have had it. "The Gods sell all things at a fair price," says the proverb; but they sell nothing dearer than these two indulgences, since the price is commonly the man himself.

The simple conclusion that common sense forces upon us is that a young man fronting life cannot *afford* to drink; he cannot afford the money; he cannot afford to bear the reputation, nor run the risks it involves.

I refer next to the habit of light and foolish spending. Emerson says, "The farmer's dollar is heavy; the clerk's is light and nimble, leaps out of his pockets, jumps on to cards and faro tables." But it gets into no more foolish place than the till of the showman, and minstrel troupe, and theatrical company. I do not say these things are bad. When decent, they are allowable as an occasional recreation, but here, as before, the sense of proportion must be observed; not what I like, but what I can *afford*.

It has been said that no one should carry coin loose in the pocket, as too easily got at. I would vary it by applying the Spanish proverb, "Before forty, nothing; after forty, anything." If one has been careful in early life he may be careless after. At first let the purse be stout and well tied with stout strings; later there need be no purse, but only an open hand.

It seems to be an excess of simplicity to suggest that a young man should purchase nothing that he does not actually want, nothing because it is cheap; to resist the glittering appeals of jewels and gay clothing and delicate surroundings. These will come in due order.

(3.) It is an essential condition of thrift that one should keep to legitimate occupations. There is no thrift in chance; its central idea is *order*, — a series of causes and effects along the line of which forethought

can look and make its calculations. Speculation makes the few rich and the many poor. Thrift divides the prizes of life to those who deserve them. If the great fortunes are the results of speculations, the average competencies have their foundation and permanence in thrifty ways.

(4.) Have a thorough knowledge of your affairs; leave nothing at loose ends; be exact in every business transaction. The chief source of quarrel in the business world is what is termed "an understanding," ending commonly in a misunderstanding. It is not ungenerous or ignoble always to insist on a full, straight-out bargain, and it falls in with the thrifty habit.

It is a very simple matter to name, but the habit of keeping a strict account of personal expenses down to the penny has great educational power. Keep such a book, tabulate its items at the close of the year, — so much for necessaries, so much for luxuries, so much for worse than luxuries, — and listen to what it reports to you.

(5.) Debt is the secret foe of thrift, as vice and idleness are its open foes. It may sometimes be wise for one to put himself under a heavy debt, as for an education, or for land, or for a home; but the debt-habit is the twin brother of poverty.

(6.) Thrift must have a sufficient motive. There is none a young man feels so keenly, if once he will think so far, as the honorable place assigned to men of substance. No man is quite respectable in this nineteenth century who has not a bank account. True or false, high or low, this is the solid fact, and, for one, I do not quarrel with it. As most of us are situated in this world, we must win this place and pay its price. The common cry of "a good time while we are young" is not the price nor the way.

We cannot properly leave our subject until we have referred to spending, for thrift consists in the putting out, as well as the ingathering, of money. It decides how, and to what extent, we shall both spend and save. We must leave ample room for the play of generosity and honor; we must meet the demands of church and home and community with a wise and liberal hand; we must preserve a keen and governing sense of stewardship, never forgetting the ultimate use of money and the moral and intellectual realities that underlie life. This matter of thrifty saving is purely instrumental, simply to bring us into circumstances where self-respect, a sense of independence and of usefulness, are possible; or, putting it finer, we save to get into the freedom of our nature. Were the wisdom of the whole subject gathered into one phrase, it would be, When young, save; when old, spend. But each must have something of the spirit of the other; save generously, spend thriftily.

If I were to name a general principle to cover the whole matter, I would say, *Spend upward*, that is, for the higher faculties. Spend for the mind rather than for the body; for culture rather than for amusement. The very secret and essence of thrift consists in getting things into higher values. As the clod turns into a flower, and the flower inspires a poet; as bread becomes vital force, and vital force feeds moral purposes and aspiration, so should all our saving and out-go have regard to the higher ranges and appetites of our nature. If you have a dollar, or a hundred, to spend, put it into something above the average of your nature that you may be attracted to it. Beyond what is necessary for your bodily wants and well-being, every dollar spent for the body is a derogation of manhood. Get the better thing, never the inferior. The night supper, the ball, the drink,

the billiard table, the minstrels, — enough calls of this sort there are, and in no wise modest in their demands, but they issue from below you. Go buy a book instead, or journey abroad, or bestow a gift.

I have not urged thrift upon you for its own sake, or merely that you may be kept from poverty, nor even for the ease it brings, but because it lies near to all the virtues, and antagonizes all the vices. It is the conserving and protecting virtue. It makes soil and atmosphere for all healthy growths. It favors a full manhood. It works against the very faults it seems to invite, and becomes the reason and inspiration of generosity.

SUCCESS IN BUSINESS

BY HORACE GREELEY

IF I were asked to define a business man, I should say he was one who knew how to set other people's fingers at work—possibly their heads, also — to his own profit and theirs.

This may be in trade, it may be in manufactures, it may be in the mechanical arts, or in agriculture, but wherever the man, who, stepping into a new and partially employed community, knows how to set new wheels running, axes plying, and reapers and mowers in motion, and so of all the various machinery of production, transformation and distribution, or any part of it — he knows how to do this with advantage to the community (as he can scarcely fail to do it), and with reasonable profit also to himself, — that man is a business man, though he may not know how to read, even; though he may have no money when he commences; though he has simply the capacity — which some possess and more men aspire to — to make himself a sort of driving-wheel to all that machinery. If he has this, he is a true business man, although he may never have received anything more than the rudest common-school education. I have such men in my eye now; and they were not capitalists, the men I think of. They ultimately became so by means of business, but they did not become business men by means of their capital. I will cite a few instances to illustrate my meaning.

In the New England region wherein I was born, the great man, fifty years ago, was William Gray, of Boston,

an East India and general merchant, who had come up from a humble beginning to be the richest man in New England, — probably, at that time, in the Union. He was worth a million of dollars; and in my boyhood that was equal to thirty or forty millions now, — equal in the popular estimate, and equal in effect. Mr. Gray had been known to all Boston as having grown up among them from humility, from obscurity, from poverty, to wealth and consideration. He was the same man still as he had been at first, — neither ashamed of his origin nor proud of it; simply a Boston merchant, a business man, unassuming and unpretending, going about his own affairs and taking care of them, and neither greater nor less than the men whom he met every day; so that it was told of him that one day when another merchant, who had started higher up the ladder than he, said to him, in a fit of spleen — of passion, “Billy Gray, I knew you when you were only a drummer-boy!” “Certainly you did,” he responded; “did n’t I drum well?” That was the test of a true man, to him. What he found in life to do, he did *well*.

I think one of the most remarkable men this country has ever developed — I cannot say produced — was the late Stephen Girard, of Philadelphia — a poor German boy, from somewhere, I believe, on the Rhine. He came to Philadelphia orphaned and in poverty; and, sticking his stake there, grew up resolutely, quietly, steadily, into the wealthiest man, and probably the most influential, the most powerful man, that Philadelphia has ever yet developed. He lived rudely, not to say plainly. He had few associates, — hardly a friend; not happy, I think, in his family; at all events, not taking any active part in his social surroundings; but in his stern, rather reticent way, working out his own problem in due time. He was a

banker, — his, the Bank of Stephen Girard; and the old-fashioned bankers, who did things in the old-fashioned way, — some of them, — did not understand him quite well. One of them, at any rate, undertook to throw out his notes. This banker did not know Mr. Girard's Bank, — there was no such bank chartered according to law; and they simply rejected his notes at their counter.

He said nothing. They would not take his notes; they did not regard them as bank paper, but simply as his individual notes. But, after a while, when the right time came, he went to that bank, laid down a few thousand dollars of its notes on the counter, and asked for the specie. The cashier counted out the specie. Then he laid down a few thousand more; and the specie for these was counted out. He kept on laying down notes, and they kept on counting out the specie, until finally they asked, "Have you any more?" He said, "Yes, I have a few more;" and they then told him that they would give it up. They probably began to think that he could take all the specie they had — and a little more; so they expressed themselves as satisfied, and he was; and after that it was always fair weather between them.

I hardly think we have to-day, in all respects, quite the equal of this stirring, strong man. Everybody said "That old miser, Girard," and all spoke of him with opprobrium, as a man who had no thought but simply to get money; when that man came to die, — he had not answered any of these remarks; in fact, any man who becomes rich may better acquire the name of the miser; for it is like the shell of the turtle, the only protection he can have against the incessant beggary and importunity of those who have nothing, and do not mean to earn anything; when, I say, Mr. Girard came to die, his will was a noble rebuke to all these sneers and flings. He had lived, after all, to

a great end; and the wise and liberal disposition he made of the largest share of his property, so that thereby other orphan boys should be able to acquire the instruction, the thorough education, which he, all his life long, had felt the need of, has well rebuked the calumnies, the harsh and unfounded judgments, which had for so long been silently borne by him. I doubt whether Philadelphia has had any other man, of any name or condition, who has done her so much practical, enduring good as this much-abused Stephen Girard.

New York, as we all know, has developed eminently rich men.

The late John Jacob Astor came here also an orphan, I believe — at all events, a boy with nothing but a persistent determination to make his way. He began, early in life, as a fur merchant, and became — commencing with nothing — the greatest fur merchant that the world had ever known. He exhausted the possibilities of the fur trade, and then turned from that the means that he had acquired into the purchase of out-lots of land on this island, which had not as yet, but would soon, become valuable, and thereby rolled up the largest fortune which had been known in his time, and died the richest man that America had ever produced.

Our next eminent man was Cornelius Vanderbilt, who was probably the most consummate master of the business of building and running steamboats that the world had ever yet seen. He commenced life first as the owner of a mere sail-boat, plying between New York and Staten Island, where he was born. His fortune developed itself with the origin and growth of steam navigation. He well acquired the title of Commodore, generally given to him (and might be called Admiral as well), by mastering the possibilities of steam as a power for moving vessels on the

water. He kept abreast with the times — seeing what might be done, and doing it — until he, too, had amassed a very large fortune, and, when he left the business, was the largest owner of steamboat and steamship property on the face of the globe.

What I wish our young men to understand, what it is important to say in this regard, is, that each of these men founded his fortune on what we may say was a new idea — certainly, a distinct idea. Men had been trading in every way from time immemorial; men had been employed in transferring property and persons, beyond any account we have; men had been dealing in dry-goods; but each of these was a man who, taking a distinct line of business, gave to that business a larger development than any one man, within my knowledge, had ever given it before. Neither of these was an imitator; neither of them took an idea from some one else, and followed it up; but each commenced in his own proper path — we may say, hewed out and enlarged his own proper path in life — and followed it to fortune.

It is, in my judgment, a vulgar error, yet a very common one, to suppose that a man needs capital to go to work with. I do not mean to say that capital is not very convenient and very acceptable; but I do say that there is a prevalent mistake. If you were to ask the first hundred young men who should pass a given corner in Broadway to-morrow morning whether they would not like to borrow five thousand dollars or ten thousand dollars and go into business, I apprehend that ninety of them would answer, on the instant, “Yes, I *would* like it.” And yet I predict that nine-tenths would fail if their wish were gratified. There are a hundred men who know how to get money where there is one who knows how to take good care of it. Our young men are continually reaching

out after the control of money, before learning, or seeking to learn, how to make that control safe to themselves. It is the capacity to use money safely and wisely that men need, and not the money. It is not so difficult to get possession of other men's money as it is to use it in such a manner as to be profitable to the lender and the user.

What we need is a *many-sidedness*. What gives our Yankee-born people the start of others is, that they have more adaptation, more varying capacities, than almost any other population. When, at the outset of our late Civil War, a vessel, the United States frigate Constitution, was aground in Annapolis Harbor, and the colonel of a Massachusetts regiment called out, "How many men are able to work that vessel off? Those who can, will step four paces to the front," at once forty men stepped out to take hold of the old ship and work her off. Now, that is what we want; men who do one thing, it may be, to-day, but who are prepared to do something else to-morrow, if something else is needed and that which they are doing is not. What we need is an education that teaches men to look in various directions, qualifying them for different pursuits, enabling them to do what they desire and choose, and fitting them to do something else, if that which they select shall not continue to be profitable or desirable.

I close, then, with some suggestions as to what I consider the basis of a true business career — those which give reasonable assurance of a true business success. I place first among these integrity; because I believe that there is to-day a good deal of misapprehension on this point. There is now and then a case of brilliant rascality known among us; and we hear of this, and talk of it; we are inclined, some of us, to admire it; but, after all, there are no cases, except very exceptional cases, wherein

roguery has led to fortune. The rule is almost absolute, that our thrifty men have been exceptionally upright men. You will find few cases where the dishonest man has continuously flourished. There have been cases of his temporary, transient, meteoric success; but the rule is very uniform in its operation, that business success has been based on a broad platform of integrity.

Next to that, I would place frugality. And next, general capacity, — I mean natural capacity. I venture to say that all our successful men in business have been men of strong, original minds. It is perfectly idle, the popular conception that fortune goes by luck, or that weak men make it. Weak men make money. They do so in very rare instances; and there are abundant cases where strong men, having other desires, other aspirations, have not sought wealth. The rule is very general, however, that the men who have succeeded have been men of very strong natural powers. Then comes training, — general and special education and system, — and after that the energy of continuous application. There is nothing else wherein the rolling stone is so bare of moss as in business. The true business man must have the power of persistency in discouragement — of keeping on continuously in a good track, sure that he will come to the right result at last.

WEALTH AND ITS USES¹

BY ANDREW CARNEGIE



WILL assume for the moment that you were all fortunate enough to be born poor. Then the first question that presses upon you is this: What shall I learn to do for the community which will bring me in exchange enough wealth to feed, clothe, lodge, and keep me independent of charitable aid from others? What shall I do for a living? And the young man may like, or think that he would like, to do one thing rather than another; to pursue one branch or another; to be a business man or craftsman of some kind, or minister, physician, electrician, architect, editor, or lawyer. I have no doubt some of you in your flights aspire to be journalists. But it does not matter what the young man likes or dislikes, he always has to keep in view the main point: Can I attain such a measure of proficiency in the branch preferred as will certainly enable me to earn a livelihood by its practice?

The young man, therefore, who resolves to make himself useful to his kind, and therefore entitled to receive in return from a grateful community which he benefits the sum necessary for his support, sees clearly one of the highest duties of a young man. He meets the vital question immediately pressing upon him for decision, and decides it rightly.

So far, then, there is no difference about the acquisition

¹From "The Empire of Business," copyright, 1902, by Doubleday, Page and Company.

of wealth. Every one is agreed that it is the first duty of a young man so to train himself as to be self-supporting. Nor is there difficulty about the next step, for the young man cannot be said to have performed the whole of his duty if he leaves out of account the contingencies of life, liability to accident, illness, and trade depressions. Wisdom calls upon him to have regard for these things; and it is a part of his duty that he begin to save a portion of his earnings and invest them, not in speculation, but in securities or in property, or in a legitimate business in such form as will, perhaps, slowly but yet surely grow into the reserve upon which he can fall back in emergencies or in old age, and live upon his own savings. I think we are all agreed as to the advisability — nay, the duty — of laying up a competence, and hence to retain our self-respect.

Now, what is wealth? How is it created and distributed? There are not far from us immense beds of coal which have lain for millions of years useless, and therefore valueless. Through some experiment, or perhaps accident, it was discovered that black stone would burn and give forth heat. Men sank shafts, erected machinery, mined and brought forth coal, and sold it to the community. It displaced the use of wood as fuel, say at one-half the cost. Immediately every bed of coal became valuable because useful, or capable of being made so; and here a new article worth hundreds, yes, thousands of millions, was added to the wealth of the community.

A Scotch mechanic one day, as the story goes, gazing into the fire upon which water was boiling in a kettle, saw the steam raise the lid, as hundreds of thousands had seen before him; but none saw in that sight what he did — the steam engine, which does the work of the

world at a cost so infinitely trifling compared with what the plans known before involved, that the wealth of the world has been increased one dares not estimate how much. The saving that the community makes is the root of wealth in any branch of material development. Now, a young man's labor or service to the community creates wealth just in proportion as his service is useful to the community, as it either saves or improves upon existing methods.

Commodore Vanderbilt saw, I think, thirteen different short railway lines between New York and Buffalo, involving thirteen different managements, and a disjointed and tedious service. Albany, Schenectady, Utica, Syracuse, Auburn, Rochester, etc., were heads of some of these companies. He consolidated them all, making one direct line, over which your Empire State Express flies fifty-one miles an hour, and a hundred passengers patronize the lines where one did in olden days. He rendered the community a special service, which, being followed by others, reduces the cost of bringing food from the prairies of the West to your doors to a trifling sum per ton. He produced, and is every day producing, untold wealth to the community by so doing, and the profit he reaped for himself was but a drop in the bucket compared with that which he showered upon the State and the nation.

Now, in the olden days, before steam, electricity, or any other of the modern inventions which unitedly have changed the whole aspect of the world, everything was done upon a small scale. There was no room for great ideas to operate upon a large scale, and thus to produce great wealth to the inventor, discoverer, originator, or executive. New inventions gave this opportunity, and many large fortunes were made by individuals. But in

our day we are rapidly passing, if we have not already passed, this stage of development, and few large fortunes can now be made in any part of the world, except from one cause, the rise in the value of real estate. Manufacturing, transportation both upon the land and upon the sea, banking, insurance, have all passed into the hands of corporations composed of hundreds and in many cases thousands of shareholders. The New York Central Railroad is owned by more than ten thousand shareholders; the Pennsylvania Railroad is owned by more people than the vast army it employs, and nearly one-fourth of the number are the estates of women and children. It is so with the great manufacturing companies; so with the great steamship lines; it is so, as you know, with banks, insurance companies, and indeed with all branches of business.

It is a great mistake for young men to say to themselves, "Oh! we cannot enter into business." If any of you have saved as much as fifty or one hundred dollars I do not know any branch of business into which you cannot plunge at once. You can get your certificate of stock and attend the meeting of stockholders, make your speeches and suggestions, quarrel with the president, and instruct the management of the affairs of the company, and have all the rights and influence of an owner. You can buy shares in anything, from newspapers to tenement-houses; but capital is so poorly paid in these days that I advise you to exercise much circumspection before you invest. As I have said to workingmen and to ministers, college professors, artists, musicians, and physicians, and all the professional classes: Do not invest in any business concerns whatever; the risks of business are not for such as you. Buy a home for yourself first; and if you have any surplus, buy another lot or another house,

or take a mortgage upon one, or upon a railway, and let it be a first mortgage, and be satisfied with moderate interest. Do you know that out of every hundred that attempt business upon their own account statistics are said to show that ninety-five sooner or later fail? I know that from my own experience. I can quote the lines of Hudibras and tell you, as far as one manufacturing branch is concerned, that what he found to be true is still true to an eminent degree to-day:

“Ay me! what perils do environ
The man that meddles with cold iron!”

The shareholders of iron and steel concerns to-day can certify that this is so, whether the iron or steel be hot or cold; and such is also the case in other branches of business.

The principal complaint against our industrial conditions of to-day is that they cause great wealth to flow into the hands of the few. Well, of the very few, indeed, is this true. It was formerly so, as I have explained, immediately after the new inventions had changed the conditions of the world. To-day it is not true. Wealth is being more and more distributed among the many. The amount of the combined profits of labor and capital which goes to labor was never so great as to-day, the amount going to capital never so small.

You may be sure that the question of the distribution of wealth is settling itself rapidly under present conditions, and settling itself in the right direction. The few rich are getting poorer, and the toiling masses are getting richer. Nevertheless, a few exceptional men may still make fortunes, but these will be more moderate than in the past. This may not be quite so fortunate for the masses of the people as is now believed, because great

accumulations of wealth in the hands of one enterprising man who still toils on are sometimes most productive of all the forms of wealth.

Take the richest man the world ever saw, who died in New York some years ago. What was found in his case? That, with the exception of a small percentage used for daily expenses, his entire fortune and all its surplus earnings were invested in enterprises which developed the railway system of our country, which gives to the people the cheapest transportation known.

Whether the millionaire wishes it or not, he cannot evade the law which, under present conditions, compels him to use his millions for the good of the people. All that he gets during the few years of his life is that he may live in a finer house, surround himself with finer furniture, and works of art; — which may be added: he could even have a grander library, more of the gods around him; but, as far as I have known millionaires, the library is the least used part of what he would probably consider “furniture” in all his mansion. He can eat richer food and drink richer wines, which only hurt him. But truly the modern millionaire is generally a man of very simple tastes and even miserly habits. He spends little upon himself, and is the toiling bee laying up the honey in the industrial hive, which all the inmates of that hive, the community in general, will certainly enjoy.

The bees of a hive do not destroy the honey-making bees but the drones. It will be a great mistake for the community to shoot the millionaires, for they are the bees that make the most honey, and contribute most to the hive even after they have gorged themselves full. Here is a remarkable fact, that the masses of the people in any country are prosperous and comfortable just in proportion as there are millionaires. Take Russia, with its popu-

lation little better than serfs, and living at the point of starvation upon the meanest possible fare, such fare as none of our people could or would eat, and you do not find one millionaire in Russia, always excepting the Emperor and a few nobles who own the land, owing to their political system. It is the same, to a great extent, in Germany. In France, where the people are better off than in Germany, you cannot count one half-dozen millionaires in the whole country. In the old home of our race, in Britain, which is the richest country in all Europe — the richest country in the world save one, our own — there are more millionaires than in the whole of the rest of Europe, and its people are better off than in any other. You come to our own land; we have more millionaires than in all the rest of the world put together, although we have not one to every ten that is reputed so.

Under our present conditions the millionaire who toils on is the cheapest article which the community secures at the price it pays for him, namely, his shelter, clothing, and food.

The inventions of to-day lead to concentrating industrial and commercial affairs into huge concerns. You cannot work the Bessemer process successfully without employing thousands of men upon one spot. You could not make the armor for ships without first expending seven millions of dollars, as the Bethlehem Company has spent. You cannot make a yard of cotton goods in competition of the world without having an immense factory and thousands of men and women aiding in the process. The great electric establishment here in your town succeeds because it has spent millions, and is prepared to do its work upon a great scale. Under such conditions it is impossible but that wealth will flow into the hands of a few men in prosperous times beyond their

needs. But out of fifty great fortunes which Mr. Blaine had a list made of he found only one man who was reputed to have made a large fortune in manufacturing. These are made from real estate more than from all other causes combined; next follows transportation, banking. The whole manufacturing world furnished but one millionaire.

But assuming that surplus wealth flows into the hands of a few men, what is their duty? How is the struggle for dollars to be lifted from the sordid atmosphere surrounding business and made a noble career?

Wealth has hitherto been distributed in three ways: the first and chief one is by willing it at death to the family. Now, beyond bequeathing to those dependent upon one the revenue needful for modest and independent living, is such a use of wealth either right or wise? I ask you to think over the result, as a rule, of millions given over to young men and women, the sons and daughters of the millionaire. You will find that, as a rule, it is not good. Nothing is truer than this, that as a rule the "almighty dollar" bequeathed to sons or daughters by millions proves an almighty curse. It is not the good of the child which the millionaire parent considers when he makes these bequests, it is his own vanity; it is not affection for the child, it is the self-glorification for the parent which is at the root of this injurious disposition of wealth. There is only one thing to be said for this mode, it furnishes one of the most efficacious means of rapid distribution of wealth ever known.

There is a second use of wealth, less common than the first, which is not so injurious to the community, but which should bring no credit to the testator. Money is left by millionaires to public institutions when they must relax their grasp upon it. There is no grace,

and can be no blessing, in giving what cannot be withheld. It is no gift, because it is not cheerfully given, but only granted at the stern summons of death. The miscarriage of these bequests, the litigation connected with them, and the manner in which they are frittered away, seem to prove that the Fates do not regard them with a kindly eye. We are never without a lesson that the only mode of producing lasting good by giving large sums of money is for the millionaire to give as close attention to its distribution during his life as he did to his acquisitions. We have to-day the noted case of five or six millions of dollars left by a great lawyer to found a public library in New York, an institution needed so greatly that the failure of this bequest is a misfortune. It is years since he died; the will is pronounced invalid through a flaw, although there is no doubt of the intention of the donor. It is sad commentary upon the folly of men holding the millions which they cannot use until they are unable to put them to the end they desire. Peter Cooper, Pratt of Baltimore, and Pratt of Brooklyn, and others are the type of men who should be taken by you as your model; they distributed their surplus during life.

The third use, and the only noble use of surplus wealth, is this: That it be regarded as a sacred trust, to be administered by its possessor, into whose hands it flows, for the highest good of the people. Man does not live by bread alone, and five or ten cents a day more revenue scattered over thousands would produce little or no good. Accumulated into a great fund, and expended as Peter Cooper expended it for the Cooper Institute, establishes something that will last for generations. It will educate the brain, the spiritual part of man. It furnishes a ladder upon which the aspiring poor may climb; and there is

no use whatever trying to help people who do not help themselves. You cannot push any one up a ladder unless he be willing to climb a little himself. When you stop boosting, he falls, to his injury. Therefore, I have often said, and I now repeat, that the day is coming, and already we see its dawn, in which the man who dies possessed of millions of available wealth which was free and in his hands ready to be distributed will die disgraced.

Of course I do not mean that the man in business may not be stricken down with his capital in the business, which cannot be withdrawn, for the capital is the tool with which he works his wonders and produces more wealth. I refer to the man who dies possessed of millions of securities which are held simply for the interest they produce, that he may add to his hoard of miserable dollars. By administering surplus wealth during life great wealth may become a blessing to the community, and the occupation of the business man accumulating wealth may be elevated so as to rank with any profession. In this way he may take rank even with the physician, one of the highest of our professions, because he too, in a sense, will be a physician looking after and trying not to cure, but to prevent, the ills of humanity.

Such is the man whom the future is to honor, while he who dies in old age retired from business, possessed of millions of available wealth, is to die unwept, unhonored, and unsung.

I may justly divide young men into four classes;

First, those who must work for a living, and set before them as their aim the acquisition of a modest competence — of course, with a modest but picturesque cottage in the country and one as a companion “who maketh sunshine in a shady place” and is the good angel of his life. The motto of his class, No. 1, might be given

as "Give me neither poverty nor riches." "From the anxieties of poverty as from the responsibilities of wealth, good Lord, deliver us."

Class No. 2, comprising those among you who are determined to acquire wealth, whose aim in life is to belong to that much-talked-of and grandly abused class, the millionaire, those who start to labor for the greatest good of the greatest number, but the greatest number always number one, the motto of this class being short and to the point: "Put money in thy purse."

Now, the third class comes along. The god they worship is neither wealth nor happiness. They are inflamed with "noble ambition;" the desire of fame is the controlling element of their lives. Now, while this is not so ignoble as the desire for material wealth, it must be said that it betrays more vanity. The shrine of fame has many worshippers. The element of vanity is seen in its fiercest phase among those who come before the public.

Now, it does not seem to me that the love of wealth is the controlling desire of so many as the love of fame; and this is matter for sincere congratulation, and proves that under the irresistible laws of evolution the race is slowly moving onward and upward. Take the whole range of the artistic world, which gives sweetness and light to life, which refines and adorns, and surely the great composer, painter, pianist, lawyer, judge, statesman, all those in public life, care less for millions than for professional reputation in their respective fields of labor.

But there is a fourth class, higher than all the preceding, who worship neither at the shrine of wealth nor fame, but at the noblest of all shrines, the shrine of service — service to the race. Self-abnegation is its

watchword. Members of this inner and higher circle seek not popular applause, are concerned not with being popular, but with being right. They say with Confucius: "It concerneth me not that I have not high office; what concerns me is to make myself worthy of office." It is not cast down by poverty, neither unduly elated by prosperity. The man belonging to this class simply seeks to do his duty day by day in such manner as may enable him to honor himself, fearing nothing but his own self-reproach.

Standing upon the threshold of life, you have the good, better, best presented to you — the three stages of development, the natural, the spiritual, and celestial, they may fitly be called. One has success in material things for its aim — not without benefit this for the race as a whole, because it lifts the individual from the animal and demands the exercise of many valuable qualities; sobriety, industry, and self-discipline. The second rises still higher; the reward sought for being things more of the spirit — not gross and material, but invisible; and not of the flesh, but of the brain, the spiritual part of man; and this brings into play innumerable virtues which make good and useful men.


The third or celestial class stands upon an entirely different footing from the others in this, that selfish considerations are subordinated in the select brotherhood of the best, the service to be done for others being the first consideration. The reward of either wealth or fame is unsought, for these have learned and know full well that virtue is its own and the only exceeding great reward; and this once enjoyed, all other rewards are not worth seeking. And so wealth and even fame are dethroned; and there stands enthroned the highest standard of all — your own approval flowing from a faithful dis-

charge of duty as you see it, fearing no consequences, seeking no reward.

It does not matter much what branch of effort your tastes or judgment draw you to, the one great point is that you should be drawn to some one branch. Then perform your whole duty in it and a little more—the “little more” being vastly important. We have the words of a great poet for it, that the man who does the best he can, can whiles do more. Maintain your self-respect as the most precious jewel of all and the only true way to win the respect of others, and then remember what Emerson says, for what he says here is true: “No young man can be cheated out of an honorable career in life unless he cheat himself.”

WOMEN IN BUSINESS

BY FRED LESLIE HOWARD

 NOT long ago six or seven occupations covered the whole field of women's work outside the home. To-day she has penetrated almost every kind of business and profession. When we realize that five and one-quarter millions of women are engaged in business pursuits in this country, that of this number more than two hundred and fifty are wholesale merchants, between one and two thousand women are conducting business for themselves in the one state of Massachusetts, it begins to look as if women were in business to stay, and as if they were already a considerable factor in the great business world.

While her work at home included much that has since gone into shops and factories, she was generally content to remain in the retirement of home life, but when she was deprived of that work at home and was still dependent upon her own efforts for support, she was forced to come out into the world and compete with men, or else lead an idle, unprofitable life.

Much to their credit, a great number of women have chosen the former course and no longer await the laggard suitor as their aim in life. In many and rapidly increasing cases she must now be sought, not where she is a dependent, but where she is often in command.

There seems to be as great a variety of opinion in regard to women in business as there is in regard to women out of business, and it is quite true that this most interesting

creature does not drop her mystifying characteristics when she enters the business arena.

I know it to be the opinion of some men that women have no business to be in business at all, whether they are otherwise provided for or not. But usually these are the men who believe in taxation without representation, when applied to women; who believe that a woman should receive less remuneration than a man for the same services rendered; who think that women should be held to a stricter moral code than men, and, as far as governmental privileges are concerned, should be classed with lunatics, idiots and paupers. Like the old colored preacher they believe that every woman must be possessed of seven devils because the Scriptures speak of but one woman who ever had them cast out.

I believe that some time the people who take our places will look back upon this period of history in wonder and amazement at the present attitude of the majority of men toward women.

As a rule, one of the most unreliable things in this world is man's opinion of woman. It varies at different stages of his career. Under some circumstances, in his opinion, there is but one woman to be considered; later on there are perhaps two, one whom he loves to recognize, and one whom he is obliged to recognize. At some period, in most men's lives, all women are beautiful, at another all women are false. She is judged more by his own feeling toward her than by what she really is. It seems impossible for man to estimate woman justly. He is quite sure either to over-rate or under-rate her. I believe it was a man who said of the highly intelligent women of our own city, that they are noted for their broad and erroneous ideas and their wide range of misinformation. With such flippancy men pass judgment upon women.

In my own efforts to estimate women in business, I find myself strongly disposed to think first of their foibles and their sometimes amusing and sometimes very surprising peculiarities.

Those who have dealings with women in business know very well that they possess all the elusive qualities attributed to them by the poets, and we know that in business these qualities often become alarmingly dangerous. Although it has been my lot to examine a very large number of women with reference to their credit responsibility, I am looking for a surprise in every new one I meet.

Instinctively I recall the women who assume a defiant or a suspicious air, as they seat themselves to be examined for credit; the women who consider the request for references as a reflection on their honesty, and the suggestion that they give some important particulars as to their financial condition impertinent and "fussy." I recall the women who resent as an insult the extension of time on their overdue accounts, if it is to be given in the form of a note, believing that the request of a promise to pay at a specified date indicates a suspicion of their intention to pay at all, and those women who as perfect strangers coolly propose that we furnish them with capital, in the form of merchandise, and take for them all the chances of a new and untried business, because they do not wish to be under obligations to anyone. I am speaking of very common and not unusual instances.

One woman whom I had examined for credit, as I supposed with the greatest delicacy and consideration, revealed the impression she had received from the interview, by her conversation with another woman, which was overheard and ran as follows: —

"Were you ever in to see that man?" — pointing to me.

“Yes,” was the reply.

“Well, did he want to know how many fingers and toes you had?”

The best devised methods of examining a man's credit responsibility I find must be somewhat modified in the case of a woman. In the first place you can not be so direct with a woman. If once alarmed or suspicious, her lips become sealed and it is an expert credit man who can open them.

When a man makes a statement, you are pretty sure he means to say what he does say, whether it is true or not. If what he says proves to be false, you can at least take the satisfaction of stating plainly to him that he is a prevaricator. But often when a woman makes a statement of her business condition you are not “dead sure” whether she has said what she knows is so, or has said what she feels is just as certainly so as if it were really so.

I find that many women in business are often unable to give a very reliable statement of their affairs, because they themselves do not possess the information.

Many women keep no books at all and only know what they have made by what money they have left when their bills are paid, or what they have lost by the bills they can not pay.

Sometimes, when they attempt to keep books, their methods mislead themselves and everyone concerned. For instance, one woman's books showed that she owed \$1200, while she declared she owed but \$250. She could not explain this discrepancy, and I was left the choice of believing her or believing her books, as I might prefer.

Another woman's books showed too little difference between the amount of her expenses and the amount of her sales. Investigation showed that sometimes, when-

ever she felt like it, she charged cash purchases of merchandise to expense account.

I know an instance of a large bill of goods being paid for by a woman when the goods had never been received. The mistake was not discovered until some six months afterwards, when a case containing the goods she had paid for was found in a teamster's yard among a lot of empty cases the teamster had purchased of the firm who had sold her the goods. The bill was paid because it was on the monthly statement.

Sometimes, when the books are well kept and the woman's statement of her affairs is perfectly satisfactory, the most unexpected things happen; surprises that the wisest credit man could not foresee.

A woman in a certain state obtained credit by proving that besides her stock in trade she had \$500 to her credit in the savings bank of her town. She failed to meet her bills when due, and gave as a reason that she had loaned the \$500 that she had in the bank to a very dear friend. I had a long and hard tug to get my money, and the latest authentic report received showed that the dear friend still had the \$500.

A woman whom I knew to have \$900 on deposit, to meet the mishaps of trade, when I gave her credit, gave me as a reason for not meeting her bills when due, that most of the \$900 had been spent to enable a young man to fit for the ministry. I naturally inquired why she gave the money which belonged to me to the young man. Her reply came in a superior tone, "It was not your money and I did not give it to the young man. It was the Lord's money and I gave it to whom it belonged."

The distorted ideas some women have of what constitutes the basis for credit are often amusing in the extreme. For references, old schoolmates and sometimes

quite new friends are brought in; persons with whom the applicant had once attended Sunday School, and the like, but who know as little of the affairs of the applicant for credit as of the kind of references required.

One woman, who had received several bills of goods C.O.D., wrote with the next order, "I think you have now sufficient proof of my honesty and my promptness in paying my bills to give me credit for the future."

A woman in New Hampshire sent an order and in her letter stated that she had just started in business and would like the goods on our regular terms. "I do not ask or expect any favors; I understand that business is business. I am a thorough business woman and herewith send you as reference the name of my minister."

Another woman wrote for credit as follows: "I would like these goods as soon as possible. I am president of the Woman's Club in our village." When asked for an interview she indignantly declined, saying that such a request reflected upon her honesty, which, as president of the Woman's Club, she would not tolerate from anyone.

A most curious thing illustrating a woman's ideas of business was the case of one who took a guaranty to have signed by her father. The guaranty came back for just the amount of the bill purchased, was signed by the woman herself with her own name, and with the guaranty was enclosed a post-office order for the full amount of the bill. What she imagined the guaranty was for, I have never found out.

In reply to requests for payment, we often receive replies more curious than satisfactory. A very common one is, "Yours received. I will send you some money as soon as convenient. Thanking you for past favors, etc." This is evidently supposed by the writer sufficient

to meet all requirements in the case and also to have the true business ring. One woman, much in arrears with her bills, and who had been requested several times to remit, wrote: "Here's your money. I could have sent it before but I hated to part with it and I hate to part with it now." Now these things are all true and all in my own experience, but if they were taken as the basis upon which to form an opinion of the business ability of women, that is, of their natural capacity, they would be woefully misleading.

Most things are relative in this world and we shall therefore arrive at the fairest estimate of women in business by a comparison of them with men in business.

Speaking in a general way, a man goes into business because he wants to, a woman because she must. A man goes into business for life, a woman until something better or worse turns up. "Woman's business is of her life a thing apart, while it is a man's whole existence."

These facts in themselves are sufficient to account for the whole difference, but the chief reason remains to be given. As a rule, a man comes to the exigencies of business well trained. From the cradle to the threshold of his business career he is in a course of training. Rich or poor, in this country he must be trained. If necessary almost everything is sacrificed for the training of the boy, and if there is no one to train him he must train himself, for no one expects anything from an untrained man.

But a girl until very lately, too lately to be generally effective as yet, has gone on to womanhood untrained for business, until she appears before the credit man with "all her imperfections on her head."

On the one hand we have the well trained, well prepared man, on the other the inexperienced, unequipped, untrained woman.



After the painting by V. S. GILBERT

ARTIFICIAL FLOWER MAKING

We shall never reach a fair estimate of woman in business until we give this most important fact due weight. No estimate is just without it, but with it I myself feel bound to give women in business highest praise for the showing they have made under this great disadvantage.

We have capable men who have had but little business training and the same may be said of some women. But until the conditions are more nearly equal with men and women in business, we may well reserve our judgment as to their comparative ability.

Who can question the ability of a widow who has successfully conducted a large wholesale business since the death of her husband some ten years ago; or of another woman who took in hand, at the death of her husband, a great manufacturing, wholesale and retail business conducted in two cities, and carried it on, in increasing volume, every year since, under her own personal management?

The banking department of a concern doing an annual business of two hundred and fifty millions is conducted by two maiden ladies, who sign all checks and stand responsible for the correct balance of this large sum of money.

One Theodore Beacham contracted for the grading of the Old Dominion Railroad bed. While the work was in progress he lost his health and became a confirmed invalid. His wife assumed the whole responsibility, and at last accounts was carrying on the great work to the admiration of all the railroad officials.

It is interesting to note that the great meat-packers' strike in Chicago was brought to a settlement through the skillful management of a woman physician. She discovered that the sanitary condition of the barracks where the workmen were housed and fed was a menace to the

health of the city, and demanded that they be abolished. The strike could not be continued if her demands were met, and, as they were just and imperative, it was called off. Her action showed a comprehension of the situation which seemingly *no man* had thought of, certainly had not acted upon either in the interest of humanity or of business.

The Board of Immigration, for the first time in its history, recognizing the business ability of a woman, not long ago appointed Miss Amy Allemand Bernardy, Ph. D., of Smith College, Special Commissioner of Immigration at the Port of Boston. This position requires an understanding of industrial conditions, and much business ability.

Among persons of great wealth perhaps Helen Gould has shown as much business ability in the management of her great possessions, and in the distribution of her bounty, as has Andrew Carnegie.

Perhaps Hetty Green has shown as great a *grasp* of business affairs in accumulating and *not* distributing her great wealth as did Russell Sage. If I were permitted to step outside of the realm of what might be strictly called business, I could fill hours in relating instances I have known where women have stood bravely and alone in the midst of wrecked fortunes, upholding and inspiring the broken-spirited husband, either to the end of his life, or until his fortunes were retrieved. That may not be actually conducting business, but of such qualities successful business ability is born. Notwithstanding all that may be said of the peculiarities of women in business, it may be that with the same opportunities, the same freedom of action and the same training, they would show as high average ability as is now shown by men.

At any rate it must be admitted that in those qualities that help to make up the highest type of human character,

such as purity, temperance, patience, perseverance and fortitude under discouragement, the average woman appears far superior to the average man.

In my opinion, were such natural characteristics as women possess carried into business, combined with the advantages enjoyed by men, we should have the ideal business person.

I have not touched upon business ability as shown by the majority of women in the management of their households, but there is no severer test of that than the demands upon a woman in this particular. If the average mercantile house is conducted with better business management, or more systematically, or with greater economy, it has escaped my notice.

Women are trained for managers of the household and for some professions, and their success in these positions demonstrates that when the training is available the ability is not wanting.

That women have made and are making great progress there is no doubt. This is true no less in business than in the social world. That they are to be a still greater factor in business is beyond question. Their progress has been made under great difficulties and in spite of a strong sentiment against it. But wherever woman has entered she has brought nothing worse than the effects of the unfortunate restraints mistakenly imposed upon her.

THE PROGRESS OF A GENTLEMAN¹

BY GEORGE MAHON

HE'LL not stay long," said Tom Mullins, decisively. "He's too much of a gentleman for this office."

"What's your definition of a gentleman, Tom?" asked Calker, — "Cub" Calker, as he was called, not by reason of his being of a tender and unsophisticated age, but because he had served but a paltry two years in the office where the rest of us had worked for what Tom Mullins would term "a crow's age." Cub was always getting himself into trouble by asking impudent or foolish questions, on which occasions "the office" individually and collectively would proceed verbally to sit upon him.

"Listen to the innocent! What's a gentleman?" jibed Hughes.

"Did you ever see one?" queried Watson.

"Why yes, I've seen one or two," responded Cub, "though, now that I think of it, not among the company here assembled. That, however, was not my question. What I want is simply Mullins's definition of a gentleman."

Tom looked Cub over very deliberately from head to heel before deigning to answer.

"Well then, sonny, listen." Tom's manner was most self-satisfied and condescending. "A gentleman is a fellow who has been pampered and waited on, and who

¹ From "Clever Business Sketches," by permission of The Business Man's Publishing Co., Detroit.

has been away to college and learned a lot of things that are of no practical use. He can talk about history and politics and art; he can dance and play golf; he feels as much at ease in his dress suit as you do in your working clothes; he always wears good clothes, even if he does n't pay for them; he generally has a big idea of himself and the girls all think he is just lovely; but when it comes down to doing hard, actual work, he can always prove an alibi."

"Good. Very good, indeed!" commented Cub. "That puts us out of it, sure. Imagine a man feeling comfortable in a dress suit! I never could. And, imagine Hughes talking art. He could n't tell a landscape from a fire-escape. And wouldn't Watson look cute playing golf? You'll never make it, Cummings, for when you talk politics you make us all wonder whether it would be better for us to commit suicide or simply to murder you. But, Tom, old chap, there's hope for you."

"Think so?" asked Mullins, half pleased, yet cautious.

"Certainly. You possess at least one qualification. Whenever there is work to be done, your alibi is—"

Cub was gone. As the door slammed behind him it arrested the flight of Tom's ruler and paper-weight, hurled with murderous intent. As Tom recovered his property, Cub's laughter floated up to us, while our own mirth was increased by Henderson's sage remark that a gentleman threw bricks, bottles or cuspidors, maybe, if the occasion required it, but never paper-weights. And then, noticing that the clock hands indicated ten minutes past six, we made a rush for our hats and departed.

As I walked homeward my thoughts turned involuntarily to the man who had been the occasion of Mullins's

remark. Unquestionably he had the appearance and manner of a gentleman. How self-confident, yet courteous, he seemed as he stepped into the office and inquired for Mr. Harley!

"Somewhere about the works," Watson replied, shortly.

For a moment, silence. Then the stranger asked, "Had I best go look for him or wait here?"

"No one allowed through the works," grunted Watson.

Then Cub's impulsiveness broke out. Seizing a chair, he lifted it over the railing, at the same time saying, "Mr. Harley will be in shortly. Won't you sit down and wait for him?"

"Thank you, I will," replied the stranger, and he did. For two long hours he sat silently, patiently, until at last the chief came.

"That's him," volunteered Cub, in a whisper.

The stranger thanked him with a nod, rose, removed his hat and stepped forward.

"Mr. Harley?"

"Yes."

"My name is Cortright. I have a letter from Mr. Clarke directing me to report to you."

"Ah, you want a job?"

"I do. I have brought some testimonials from my former em—"

"Oh, never mind that. I don't need any more help. Office full now. Crowded for room. But Mr. Clarke has instructed me to put you on and give you a trial, and what Mr. Clarke says goes in this establishment. When can you start?"

"At once."

"H'm. Four o'clock. Not to-day. Report here at seven o'clock to-morrow morning."

“All right, sir. Thank you.”

“No. Don’t thank me. I am merely following directions. Now, see here. I don’t know what you’re to get or anything about it. Mr. Clarke simply says to give you a trial. He will decide on your salary, I suppose, when I report to him about you.”

Now, the position I filled was a source of some pride to me, for I had been obliged to serve long and arduously at all the lower desks and to wait my turn in the slow-moving line of promotion before I attained to it. I could hardly have overestimated the importance of the work, but I felt that I must have greatly overestimated its difficulty when I saw how quickly Cortright picked it up.

“Ever do anything like this before?” I asked.

“Never.”

I could scarcely believe it. A glance at the work, a question or two, a second of thought, and then Cortright’s pen would begin to move. And how it did move! Standing at the extreme end of my long, high desk, taking up so little room that I seemed to have as much space to myself as ever, Cortright wrote and figured as I had never seen man do before. His penmanship was good and he wrote rapidly, while at figuring he was remarkable. He was full of short cuts, and many calculations he would do mentally before I had set down the first figures for the computation of them. I soon saw that within a few days’ time Cortright would be able to do the work of my desk better than I could do it, and a most un-Christian spirit of resentment took hold of me. But early in the afternoon my cup of bitterness became full to overflowing. About two o’clock old Harley burst in, crying sharply:

“Cummings, you’ll have to get the time sheets and

come out into the shop. That fool, Derry, has got himself hurt and gone home. There's been no time taken this afternoon and you'll have to work it up. Let Cortright do what he can here while you're away."

Down came my pen with a force that sent ink spots flying in every direction; into the drawer went my sheets crumpled and mussed; and slam went the drawer shut with a slam that had capsized the ink-well but for Cortright's quick grasp to save it.

"Too bad, old chap," said he. "Hope you're soon out of it."

But I answered not, for my soul was filled with wrath. Grabbing my hat and a pad of time sheets, I fled out into the shop, whither old Harley had preceded me. And there, amid the banging of the heavy hammers, the constant thudding of the rivet machines and the rattling and rumbling of the great cranes as they ran to and fro overhead; there, among the grimy machinists and the sweating, panting "hunkies," I put in what seemed to me the most miserable afternoon of my existence. How well it came back to me, the joy I had felt at being promoted from this same timekeeper's position! How proud I had been to become the newest and most insignificant of Harley's office force! Emergencies like the present had arisen before, yet never had I been called upon to leave my desk and "take time." But now —

When I returned to the office all had left save Cortright. He sat upon my high stool, leaning back against the desk and facing the doorway. A picture of graceful ease he was, and there by him on the desk lay, fully completed, the large "Daily Report" sheet, which was at once my pride and my despair.

"Through with it at last?" he asked, pleasantly.

My reply was more forcible than it was relevant or civil.

“Beastly job, I imagine,” he commented. “Will you look over this report and see if it is all right?”

In form and appearance, it certainly was. As to the correctness of the figures I had no doubt.

“Who showed you?” I demanded.

“No one. I had an idea of the drift of your work from what I saw this morning, so all I had to do was to hunt up yesterday’s sheet, see how you carried the work and do the same with this. Does it seem to be all right?”

Why ask? He knew very well it was all right, as well — nay, better done than I could do it. I grudgingly muttered assent.

“Well, good night, then. I hope Derry will be back to-morrow.”

Why should he hope so? If he could fill my place for a few days, the quality of his work might insure his being retained there, while I — well, I suppose I should go back to time-keeping. Such was the justice of the world in general and of the Carleton Iron Works in particular, I reflected.

For a week Derry remained away and I took his place, while Cortright took mine. Every night he would wait for me to examine the report. I remonstrated against this, telling him he was quite competent to do it, but he shook his head smilingly.

“It is your work, you know,” he said. “I’m only your understudy, and must submit my work to you.”

I refused to look over the sheets after this, but he waited for me just the same. One evening I came in quietly and went into the little wash-room just off the office to clean up. Cortright neither saw nor heard me. A moment later a burly “hunky” entered and asked some question in broken English.

"I really do not know," Cortright replied, "but Mr. Cummings will be here shortly. Probably he can tell you."

The "hunky" growled something I could not catch, opened the gate, walked over to Watson's desk and began to fumble through his papers.

"Look here, my friend," said Cortright; "do you see that sign? You're not allowed in here. Step outside and wait for Mr. Cummings."

"No wait," growled the hunky.

Cortright bounced from his stool. "Get outside or I'll put you out," he commanded.

"You no put me out. You go to—"

Just how it happened I could never tell, but the next second the "hunky" was over the railing and in a heap on the floor, thrown there by a slim youth twenty or thirty pounds below his weight.

"If you attempt to come back I'll break you in half," said Cortright, cheerfully. And I have no doubt that he would have done so, but at this moment I stepped into the office, answered the man's question and saw him out.

"How did you do it?" I asked. "That fellow is much heavier and looks twice as strong as you."

"He probably is. It was not a case of strength, — just a case of know how."

And so it was ever with Cortright. Whatever his task, he seemed always to have the "know how."

When Derry returned, I resumed my own place and Cortright was set to help Mullins, whose work was behind.

"Guess that will keep you amused for a few days," commented old Harley. But so great was Cortright's speed and so much increased was Mullins's own effort, unconsciously stimulated by Cortright's example, that by evening Tom's work was "up to the minute."

“What do you think of your gentleman now?” asked Cub, as we walked homeward together.

“He’s a smart fellow,” Tom replied. “But we must not forget he’s here simply on trial. After he is assured a permanent job, you’ll see that his daily life will cease to be one continuous performance of grand-stand plays.”

“Tom, I wouldn’t have your disposition for all the wealth of Carnegie,” retorted Cub.

A few days later came the day on which the most reluctant of us went cheerfully to work, — the fortnightly pay day. About ten o’clock a messenger from the cashier’s office came in and proceeded silently to lay each man’s envelope upon his desk; and each of us, hastily and with an assumption of indifference, crammed the envelope into his pocket, only to extract it again the first moment he was sure of being unobserved, rip it open, count the contents and place them lovingly in his pocketbook. Just why we did this I cannot say, but it was the invariable custom of every man in the office.

“Your name Cortright?” the messenger demanded of our new recruit.

Cortright assented. Then, making no motion to take the envelope extended to him, he asked, “What is it?”

“Why, your pay envelope, of course.”

“Just take it back again and put it in the safe for the present, will you?”

“What for? You had better take it.”

“I prefer not to take it.”

“Well, I’m not going to take it back, at any rate.” The messenger was getting angry.

“You may do as you please with it,” replied Cortright, coldly, as he turned again to his work.

The messenger stood undecided for a moment, then

stepped over and laid the envelope on Harley's desk. A moment later the chief came in.

"Eh! What's this?" he cried. "Cortright, I guess this envelope is yours."

Cortright stepped briskly over to him. "I suppose the messenger laid it there after I declined to take it," he said.

"Declined to take it! Are you crazy?"

"If you please, sir, there has been no agreement with me as to salary," Cortright explained, with a smile. "Until some agreement is made, I prefer not to accept any payments which may or may not be satisfactory."

"Young man, you are likely to accept whatever payments this concern offers you," bellowed Harley.

"Probably I will." Cortright was neither frightened nor angry. "But I claim the right of being consulted first. If my ideas regarding salary do not coincide with those of Mr. Clarke, or whoever has the deciding of it, it is more to the purpose if I kick before accepting a payment than if I do so afterwards. Will you tell me the rate at which that payment is figured?"

"Don't know," growled Harley.

"Will you be so kind as to open the envelope and see?"

"Open it yourself and see."

"I beg to be excused."

I glanced cautiously at the boss, expecting an explosion. Harley's temper was never angelic; and when aroused to wrath he was sublimely terrible. At that moment he looked as if he were about to devour the calm, smiling, yet respectful, young man who stood before him. Suddenly his face relaxed.

"Well, I'm damned!" he exclaimed. "Get back to your work."

On the following Monday morning Cortright was not

at the office when we arrived, but old Harley was, and he glared so balefully at each of us as we came in, at the same time glancing ostentatiously at the clock, that every man sought his own desk speedily, and plunged at once into his work. As soon as the chief left for his daily tour of inspection around the works, each of us turned involuntarily to the others and asked, "Where's Cortright?"

Nobody knew, but before we left that night we had startling news of him. The six o'clock whistle had blown; the thud and clang and rattle of the great shop had subsided; the tired, grimy toilers were issuing from its doors on their way homeward, and we were just preparing to follow them, when we were arrested by a word from old Harley, who, in defiance of his usual custom, was still at his desk.

"One moment, gentlemen," said the chief; and at so extraordinary an address from that grim official, every man stood as if rooted to the spot. "This morning I received a call for a clerk from the General Office. You know they are rather particular up there."

Did n't we know it! On the last occasion of such a call Mullins had been sent up, he being senior clerk in point of service. But at the end of a three days' trial he had been sent down again in disgrace, whereby the prestige of our office was greatly reduced.

"I sent up Cortright, for two reasons," proceeded Harley. "One, because I can best spare him, he having no regular desk here; the other, because he seems to possess several of the requisite qualifications of a good clerk, not the least of which is punctuality, — a fact which it will be well for you all to bear in mind. Good night, gentlemen."

For several minutes we walked in silence. For once Mullins could say nothing. He had had his chance.

At last Cub blurted out, "Serves him right!"

"I hope he'll suit them," I added.

"Of course he will," cried Tom. "Such namby-pamby, soft-spoken fellows as he always do suit. He'll know how to toady and curry favor up there."

"Toady! Why, he has more independence and nerve in a second than you'll have in your whole life," replied Cub. "Just look how he stuck out about his pay —"

"Oh, of course, that episode appeals to you," sneered Tom. "To win your admiration, it is only necessary to perform some such theatrical piece of business as that."

"Well, if he has in any way won my admiration, it is more than you have ever done."

"For which, believe me, I am duly thankful," was Tom's retort, as he left us at the corner of his street.

Some two weeks after this, old Harley called me to his desk.

"They need another clerk up at the General Office," he said. "Ball says to send you, if I can spare you, which means I must spare you. You will report there at once."

"But my work here," I said. Surely my place could not be filled at a moment's notice, I thought.

"Oh, we'll make shift to manage that. Go along and good luck to you." Old Harley was never disconcerted. I verily believe that if every clerk in his office had suddenly dropped dead the old man would have "made shift" to get the work out somehow just the same.

At the General Office I found all in confusion. Workmen were tearing down the partition that formerly separated the chief clerk's office from that occupied by the billing department. Desks were being moved and everything was being rearranged. Quickly I learned that Mr. Clous, the chief clerk, had been stricken down with an incurable disease, and that his office was now to be consolidated

with the billing department, all under the head of Mr. Ball, heretofore chief of the latter. When we were settled I found that Ball had assumed Clous's old desk, while Cortright had taken the one just vacated by Ball. And with the desk, he had taken on practically all of the work formerly done by Ball. I also noticed that whenever Ball found himself in difficulty, as happened not infrequently, owing to his unfamiliarity with the new work, he invariably went to Cortright for assistance. The man who had been Clous's assistant apparently resented having Ball replaced over his head, for, instead of trying to make things run smoothly for his new chief, he seemed to try deliberately to multiply his difficulties. So it came about on the very first day of the new order that the former chief clerk's assistant was relegated down to the place of a minor clerk, while Cortright occupied the position of right-hand man to Ball. And I, having been passed by Cortright at a single bound, felt no little satisfaction in seeing him pass others as readily.

I waited that evening for Cortright, he being, as usual, the last to leave his desk.

"I have a suspicion that I owe this promotion to a kindly word spoken by you," I said. "And if you will permit me to thank you, Mr. Cortright —"

"For the convenience of my friends," he interrupted, "I was christened Frank."

"Well, Frank, I am very grateful to you."

"Don't speak of it, old chap. I only told the truth about you as I know it. You deserved to come here ahead of me."

But I could not listen to that, knowing it to be untrue.

When I became familiar with the work in my new position, I was surprised to find the methods prevailing in that office were very antiquated. In handling the work

that had formerly pertained to Clous's office the utter lack of system was appalling. Cortright soon suggested several improvements, but Ball, who lacked decision and initiative, failed to put them into practice.

Our office was next to that of Mr. Clarke, the General Manager, who frequently strolled through our room, watching the clerks at their work. One day he stopped by Cortright's desk for several moments. Suddenly he asked:

"How are you getting on with your new work?"

"All right, sir, I believe."

"Getting familiar with Mr. Clous's system, are you?"

"His what?" Cortright's tone was unmistakable, but the manager did not understand, or pretended that he did not.

"Why, his system, his method," he repeated.

"I was not aware that he had any," said Cortright, calmly.

It seemed like impudence, but Cortright told me afterwards that the chance was too good a one to lose. However, nothing came of it, — at least, not then, — for Mr. Clarke stood for a moment in silence, then walked on.

For some months things moved along in their usual course, and then one day the stenographer who did Mr. Clarke's work failed to appear. A letter came stating that he was ill. Out came Mr. Clarke into our office.

"Mr. Ball, can any of your clerks do typewriting?" he demanded.

"I can, sir," spoke up Cortright.

"Shorthand?"

"Yes, sir; though I'm a bit out of practice."

"Come along, then. Mr. Ball, I shall need him the rest of the day."

But in an hour Cortright was out again and hammering

away at the typewriter so fast that I could not do my work, but must needs sit staring at him in stupid wonder. In an hour and a half more he had his letters all transcribed; in another fifteen minutes Cortright had got them signed and was back again at his desk. My own work kept me unusually late that night, and as I rose from my desk Cortright was just quitting his. The other clerks had gone.

“So you’ve worked at stenography, have you?” I asked.

His laugh rang out loud and clear. “No, upon my soul, I never did. Picked it up, though — home study, you know. I was afraid I’d flunk to-day, but I carried the bluff through, didn’t I?”

“Flunk! Bluff!” I cried. “Don’t play the hypocrite to me. You knew very well you were fit and you’ve just been sitting there, waiting for your chance.”

“And if I have, what then?”

“Oh, nothing. Only I don’t see how you ever managed to become so perfect without daily practice.”

“That reminds me, you’ve never been up to my rooms. Have you anything on for to-night?”

“No.”

“Well, come up, then, and I’ll show you my talisman.”

I can not say I was surprised at what I found in Cortright’s rooms, for one naturally expected that things of his would be different from those of the common herd. His rooms consisted of a bedroom and one other, which appeared to be parlor, sitting-room and workshop combined. In this latter room was a bay window of goodly size, in which stood a couch of ample proportions, overhung with oriental draperies and literally smothered in cushions of all shapes, sizes and colors. On the wall hung pictures of men, women, dogs, horses and boats, all mingling indis-

criminally together. Above a picture of a most villainous looking bulldog hung a dainty girl's glove; over a photograph of an exceptionally pretty girl was a pair of soiled and worn boxing gloves, while beneath the picture of a sedate and clerical looking gentleman reposed a pair of foils. In one corner stood a guitar and a banjo; in another a typewriter. What interested me most of all was Cortright's books. Histories, novels, and works of science there were, but the majority of the books pertained to modern business and its "attendant sciences," as Cortright was pleased to call them. Books on commercial law, books on accounting, on stenography, a large "Business Encyclopedia"; several periodicals devoted to the interests of various trades, all were there, together with innumerable circulars and catalogues of card-systems and loose-leaf book systems.

"This," said Cortright, with a comprehensive wave of his hand, "is my play-room."

"And these, I suppose," indicating his books, "are your playthings."

"Correct. And glorious playthings they are. The study of modern business and its methods is a most complex and fascinating one. Once a devotee at the shrine of this art, there is no recanting. My goddess is an exacting one, — no half-hearted worship for her, — yet how generously she rewards her true followers."

Then he dived into his books and began explaining their purposes with great enthusiasm. And I, carried away by the fascination and novelty of it all, was no less eager than he, so that it was long past midnight when I started for home.

As we parted, Cortright held out his hand to me in his frank, boyish fashion and said, cordially, "All my belongings are at your disposal, old chap. If you care

to turn up here and make use of my books, you will be very welcome. Come every night if you will."

About this time the business of the Carleton Iron Works increased largely, and Cortright's services as stenographer came more and more into demand, until soon we saw him installed as secretary to Mr. Clarke. A vacancy thus occurring in the office, Cub Calker was brought up to fill it. He soon found favor with Mr. Ball, and gradually came to stand in much the same relation to him as Cortright had formerly occupied. And Cortright so well availed himself of his opportunities for grasping every detail of the management of the business that when, eighteen months after he became Mr. Clarke's secretary, the Carleton works absorbed another plant, and Clarke became superintendent over all, it followed, as a matter of course, that Cortright should become manager at Carleton. Gratification and pride are poor words to describe the sensation I felt when he called me to become his secretary and confidential man.

I felt sure that as soon as Cortright could effect it, a change in our office methods would be made. For a month he made no sign, but one evening, when we were at Cortright's rooms, he turned suddenly to Cub and asked, "How would you like to become chief clerk?"

"Why, what's to become of Ball?" cried Cub. "I could n't push him out, you know."

"I appreciate your feeling. It does you credit," said Cortright, gravely. "But Ball has been offered another position and has decided to accept it. You will therefore become chief clerk. Cummings, you will continue as my secretary, but I shall expect you to co-operate with Calker and myself in reforming our office methods."

Whenever Cortright addressed us by our surnames we knew he was speaking as chief to subordinates. In this

mood he was as far removed from us as the sun is from the earth. We realized the gulf which separated us, and sought not to pass it.

Accordingly, it came about that Ball retired and Cub Calker reigned in his stead. And then came the upheaval. The first things to go were the old low desks for the clerks and accountants, they being replaced by broad, high desks, at which a man could work more comfortably and to better advantage. Then the old books and files disappeared, and in their place came modern loose-leaf books, card-systems and filing cases, to suit which our entire method was changed, so that within a month we had fewer clerks in the office, but those few were turning out the work more promptly and better done than ever before. The next step was to advance the salaries of those clerks who remained, whereupon clerks became more cheerful and energetic. Our system worked like a huge clock and the office became a source of satisfaction and pride to all concerned.

During the next two years no material change occurred, nor did any event take place beyond what might be expected in the ordinary course of conducting a great business; but in the third year of Cortright's management the United States Steel Corporation was formed, and our plant became one of its integral parts. At first I was a trifle uneasy, fearing that changes whereby I should lose rather than profit might be made; but I soon found that Cortright's management was satisfactory to the higher powers, and as long as he remained at the helm I felt secure.

My fears were re-awakened, however, one afternoon when Cortright summoned me and announced that he was leaving for New York on the 7.05 train.

"I must take someone with me," he said. "Can you make it?"

The question was superfluous.

"What's up?" I gasped.

"Can't tell till I get there." His tone betrayed neither fear nor hope. "Run home and get your bag. We'll dine on the train."

We dined in silence, and in silence we sat and smoked through the long evening hours as the train rushed on. Finally we sought our berths, but little could I sleep, for my soul was filled with forebodings of disaster. Changes would be made, I was sure, and the policy of the corporation tended toward a reduction of expenses. To my mind the conclusion was obvious.

Our train had hardly come to a standstill in the Grand Central Depot next morning when Cortright had me in a cab and soon we were whirling down town through the pulsing heart of the great city. Arrived at the company's offices, Cortright left me in an anteroom, while he went to consult with someone who was expecting him. I waited an almost interminable time, every moment growing more nervous and apprehensive, and had just about reached the conclusion that my path thenceforth would be down hill, when Cortright appeared in the doorway and beckoned me. Mechanically I followed him and soon found myself standing in a handsome office room, where Cortright, after a hasty word of introduction, left me. So nervous was I that I failed to catch Cortright's words, but the moment I glanced at the man to whom he had presented me I realized that I was in the presence of him who had been chosen to bear the burden of the chief executive office of this giant among industries.

With a smile, the great man rose and extended his hand cordially. "I am glad to know you, Mr. Cummings. Sit down."

I sat. In fact, my knees were so shaky it is a wonder

I did not collapse sooner. But as I sat before him I found myself growing calmer. The president sat regarding me for some moments, his eye seeming to penetrate the secrets of my life; yet was there nothing disquieting in the gaze. His very person seemed to exhale a spirit of confidence and strength. Those who came in contact with this man could not fail to unconsciously mould their minds in some measure to his qualities. And he was gravely courteous in manner, as I have ever found those men to be who are really great; for it is only the small-natured incompetents who never have time for politeness.

"You have been some time at the Carleton plant, I understand," he said, at last.

"Twenty-eight years," I replied.

"And you began, I believe, as a timekeeper and have worked up to your present position?"

I nodded assent.

"That is a point in your favor."

He is trying to let me down easily, I thought.

"You are a young man."

"Forty-six," I retorted. I wished I could have said sixty-six. But he waved my answer aside.

"Young men are what we need in some positions," he continued.

Minor positions, thought I.

"We are very well satisfied with Mr. Cortright's management, but —"

Now it was coming! I wondered if I had not better bolt.

"But we need him here."

Hurrah! It was all right, then. Would they keep me here with Cortright? I leaned forward in breathless eagerness.

"It is our wish that the management of the Carleton

plant be continued along the same lines as those followed by Mr. Cortright. He informs me that you are thoroughly conversant with all the details of his methods. The question, therefore, is whether you will accept the position of manager at Carleton?"

Would I accept it? Imagine St. Peter asking some poor lost soul if he desired admission to Paradise.

"Very well, then," smiled the president, rising. "Hunt up Mr. Cortright now. He will give you definite instructions. And drop in here again before you leave."

It is not my intention to set forth a list of the difficulties that beset my new path, nor yet to record the blunders that I made, — that there were many of both, you may believe, — so we will come down to an event the memory of which will ever remain with me. The occasion is a dinner to which Cub Calker has bidden us on the eve of his becoming a benedick. At the head of the table sits Cub, no longer chief clerk at Carleton, but superintendent of another plant in a distant city. At the other end sits old Harley, stern and grim no longer, but a genial, mellow old gentleman who has retired to live upon the savings of his years of frugality and toil. Around the board sit Watson, Mullins, Hughes, Henderson, a few other old comrades of former years, and myself. The dishes have been cleared away, cigars are lighted, and Cub Calker rises to address us.

"Boys, I have a letter from one I had expected to be with us. He says:

"I cannot tell you how disappointed I am at being unable to attend your farewell dinner to the friends of your bachelor days. I had expected to be present, but the stern finger of duty is pointing me in another direction, and I may not disobey. But, while I can not be at

the dinner, I shall surely arrive in time for the wedding. I would come clear across the continent for that event, and I shall expect no less of you on the occasion of my own wedding, which will occur at no very distant date. Some New York society bud, did you say? Wrong, my boy. She lives in dear old Carleton, the home of my youth, wherein rest the sweetest memories of my life. I shall defer my congratulations until I can again grasp your hand. Remember me to all the boys. God bless you all.'

"I need not tell you the writer's name," goes on Cub. "He is the one who, above all others, we are proud and happy to call our friend, — the man whom we have seen rise from a small beginning to the position which his genius and sterling worth entitle him to occupy."

"Genius nothing!" breaks in Mullins. "Why, the man is simply —"

"Shut up, Tom!" commands Cub. "We all know how steeped your soul is in pessimism. Enjoy your own sordid thoughts if you will, but don't inflict them upon us."

And now old Harley is on his feet.

"Gentlemen," he says, "I rise to propose a toast. Old codgers like myself take great pride in watching the successful careers of those with whom we have labored, whom we have helped to guide, in their youth. I count no man more fortunate in his young friends than myself. May the future of these men be no less glorious than their past and present. Our interest, our good wishes, our affection go ever with them. Gentlemen, I give you Frank Cortright and Leonard Calker, — the one as true and loyal a gentleman, the other as brave and bonny a lad as ever trod the face of God's green earth."

With a shout we are on our feet. But no, old Harley is waving us down frantically, and we, who have not for-

gotten how we used to tremble at his frown, sink back into our chairs as he shouts:

“Down! Sit down. I was about to say, when you so rudely interrupted me, that to these two names I would join the name of him who has shared in their toils, their struggles, and their triumphs, — a man whom we have seen rise from the lowest position in the Carleton Iron Works to the very —”

But here, gentle reader, modesty impels me to draw the curtain.

WOMEN WHO WORK¹

OCCUPATIONS OPEN TO WOMEN

BY JULIET WILBOR TOMPKINS



EARLY five million women go to work every day in the United States, — go to paid work, whether the returns be two dollars a week or ten thousand a year. Sixty years ago Harriet Martineau, while visiting America, declared that she found here but seven occupations for women: teaching, needlework, taking boarders, typesetting, employment in cotton mills, bookbinding, and domestic service. Now there are scarcely seven occupations closed to them; they are pouring out into the world of activities, and the five million will be six at the next counting.

Whether or not you or they like the change is wholly unimportant. As some one has suggested, the early eohippus may have resented changing into a horse, and his neighbors may have greeted his development in the matter of hoofs and legs with acidly critical comment; but, when once started horseward, nothing could stop him: he had to adjust himself to the outer conditions that demanded one concentrated toe in the place of five. In the same way woman, when she turns her face down town in the early morning, is being swept along in a great, vague, irresistible wave of economic change.

She will pass an alarmist uttering his dismal note on every corner; his warning is prophetic of lost charm, lost power, and lost position. One declares that presently man will cease altogether to support woman, if this thing

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goes on increasing, and then how about home and mother? The answer to that — not new, but worth repeating — is that man never has supported woman. To support means to provide with the necessaries of life. Who was doing the larger share of this, the man who raised and sheared the sheep, or the woman who carded and spun and wove the wool, and cut and sewed the clothes? — the man who shot the bird, or the woman who plucked and cooked it? — the man who provided the yarn, or the woman who knit the stockings? It was a fairly even matter, this “support,” in the days when most of the human needs were worked out under each individual roof, and the woman’s vigorous part did not seem to weaken her partner’s efforts; nor was there any lament of pseudo-chivalry against her pulling her full share, or even a little more. Support, indeed! A day in the life of an average great-grandmother leaves little romance on that score, to those who interpret the word honestly.

As a matter of fact, economists have shown that vastly more women are supported now, for their work has been taken from them. One by one their familiar tools have degenerated into old lumber or picturesque relics. The mills and stores can provide for the family better than they can; one woman can easily run a household now, and the others, to produce their share, must invent new household necessities or earn an equivalent in money of their old-time spinning and churning. Think what housekeeping was in the days when not even a cracker or a shirt or a candle came ready-made, and contrast that picture with the prepared, bottled, tinned, smoked, woven, hemmed, trimmed, ready-to-wear short-cuts of to-day. When the modern mother is active, the daughters simply must go to work outside; they are driven forth for lack of jobs within.

When they do not go, they are being supported to an extent that would have made the average great-grandmother stare. Wealth makes this unimportant; but, in humbler homes where the necessities are bought instead of made and yet there is but one source of money, we often get a picture of a shriveling, careworn father staggering under a weight of strumming, embroidering, spending daughters that makes us rejoice in that swelling five million at their gainful occupations. How can they do it, these kindly, careless girls; and what will become of them when they have worked their victim to death? Surely some change in a system that allows such uneven burdens need not make us fear a lessening of woman's intrinsic value: she will have gained in every sense when she becomes ashamed to rest her healthy young weight on overworked shoulders. That by going to work she competes with man and reduces his earnings is a problem for professional economists to struggle with; though it has been suggested that, as a producer, she always has competed with man and reduced his earnings, whether she wove her own clothes or earned them with a typewriter.

"No one will marry you, my dears!" says the alarmist to the young women of business. If they are young enough, they answer in their hearts, "Nonsense!" whatever their lips may say; as they grow older, the inner repudiation may become tempered with a faint doubt. It is certainly true that the modern man — of the educated world — marries less early and often than did his grandfather, and any grandmother can give you the reason.

But, in spite of the increased cost of living, in spite of the turn given by sport to energies that once knew no outlet but love-making, and in spite of the comforts of clubs and bachelor apartments, still many men do marry. I wish I could say that the modern preference is clearly for

the alert, self-helpful woman of affairs, the girl who has mastered a profession or the one whose trained mind can put through a real-estate transfer or a deal in May wheat: in time I believe that this may be true; but as yet, a limited personal experience says otherwise. We have traveled a long way since the odious Dr. Maginn made his sneering comment, "We like to hear a few words of sense from a woman as we do from a parrot, because they are so unexpected"; but the level head is still outrivaled by the curly head, whether we like the admission or not.

Statistics may prove the contrary, but it has seemed to me that the women who work and who are thrown with men in daily practical contact are less likely to marry than those who meet men only by lamp and candle light. Vanity suggests that this is the woman's choice, but I do not believe it. I believe that nearly all single women past thirty, no matter how brilliantly successful their lives may be, are secretly crying in the wilderness: they want love and children, and the want can not be stilled or satisfied with anything else.

To the frank this would seem like an argument against going to work, but there is an argument for it so vastly greater that it overwhelms this, — which is, after all, only a general tendency and need not apply to the particular case. On the other side lies the splendid fact that the woman with a trade of her own does not need to marry. She may wait until love comes, with no anxious thought of "chances," no compromise with her heart or head: she may keep the door open for the best thing of all, instead of shutting it on a possible half best. If she misses altogether, she is not an economic hanger-on, a maiden aunt to be passed about among relatives, but an independent factor in the world's processes. When hope goes, she still has dignity and a purpose; she still has her independ-

ent personal importance. Whatever the risk, the sum of the argument is all on the side of work.

And there is the joy and satisfaction of work, the interest of a thing growing under your hand, the beauty of a day humming with a vital interest instead of broken into little bits and thrown away like waste paper. Once it was difficult, almost impossible, for a girl of breeding to have a career. Think of poor Jane Austen, dropping her white sewing hastily over her writing when a guest came in, that she might not be called ungenteel! And it is only fifty-seven years since Elizabeth Blackwell, applying for permission to win a medical diploma, was refused by a dozen colleges, one of which added to its refusal the interesting statement that "it would be unbecoming and immoral to see a woman instructed in the nature and laws of her organism."

Now, in the United States alone, there are seven medical colleges for women besides the men's colleges to which they are admitted, more than seven thousand are practicing physicians and surgeons, and the theories for and against such things are being forgotten in the light of their actual work. The same opposition met every new venture. About fifty years ago an Englishman tried to introduce watchmaking among his countrywomen, a delicate and profitable trade in which hundreds of Swiss women were employed, but his initial lecture on the subject was mobbed and broken up by British prejudice; and though three venturesome souls did try to follow his suggestion and learn the trade, persecution finally obliged them to give up. Now there are over four thousand watch and clock makers in the United States, and a woman may learn any trade she pleases without opposition, almost without comment.

If there is still a visible contempt of her processes, a

tendency to take her lightly or humorously in her enterprises, that is a legitimate effect of her frequent want of training, her lack of scientific or practical preparation for what she undertakes. Too often she plunges in without knowing the a, b, c of finance and law, relying on a vague, sentimental faith that people will be kind to her where intelligence and a working plan would be her only safeguards. There was a woman who started a small business enterprise on capital lent her by a friend. The business prospered so well that, at the end of a year, the friend's husband stepped in and crowded her out. At the suggestion that she should take her papers to a lawyer and see what could be done, she stopped bewailing man's unkindness long enough to explain that she had no papers. The money had been lent by a supposed friend: how could she insult friendship with talk of a contract and signatures? Any one who could suggest that did not understand her finer sensibilities. So she lost her year's work and did not even gain common sense.

There was another woman who borrowed a thousand dollars of an elderly friend to start what she called a "gift shop," — a little store where her own good taste could make itself felt and the seeker for Christmas and birthday gifts could find inspiration and the right thing without hunting through the endless rubbish of the big shops. Her friend wrote out a check very readily. "But it is a free gift," he explained. "You can't possibly succeed in that, — it's a crazy idea, and you don't know enough. I shall never think of the money again. Don't bother about formalities." Nevertheless, the woman insisted on a formal I O U, and added a pledge of six per cent interest. To his protest that this was wholly unnecessary, she said, "I know you believe in my honesty, but I want you to respect my judgment." Knowing of

just that single remark, one is not surprised to learn that she paid principal and interest when the year was up, and ran the little shop prosperously until a bigger opening took her into new fields.

To a lack of business training is often added a dire ignorance of the times. A government employer of many women clerks has declared that not one in twenty reads the papers or knows anything of geography or contemporary events. "Ask them if the Panama Canal is to be at sea level or not, and they will stare as if you were talking Chinese," he complained. "They may read the horrors in the papers, but they skip everything of value." He had his finger flatly on one of woman's chief defects, — the lack of broad, impersonal interests. The average girl's horizon is bounded on the north by her clothes, on the south by her social relations, on the east by her private hopes, and on the west by her income; four solid walls that shut out very thoroughly the world's light and movement. She can never go very far in any but mechanical work until she climbs out into wider horizons, and she will remain at the world's mercy until she opens her mind by an interest in what happens outside her circle of acquaintance.

In speaking of the satisfaction of a working life, I had in mind something more than the work that means so much time exchanged for so much money. Compared with the whole five million, those who are free to work with hearts and heads, as well as hands, are few; and yet the United States census for 1900 shows 7387 doctors and surgeons, 1010 lawyers, 807 dentists, 1041 architects and draughtswomen, 3373 clergywomen, 6857 actresses, 3580 photographers, 2680 gardeners and florists, 15,632 bookbinders, 84 civil engineers, 293 bankers and brokers, and 2193 journalists. Such lives have a background of



DESIGNING WALL PAPER

purpose, of creative pursuit, as well as a foreground of daily detail, and so achieve a wholeness and a satisfaction missed by those whose days slip past with no more vital connection than beads on a string. Those who have never worked can not wholly understand that satisfaction. It is not only the mental approval, but also the consciousness of achievement. An indirect effect as vivid as the glow from bodily exercise spreads over the tired faculties a great contentedness; one is in harmony with the universal law, which says, "Produce! Create!" Neither discouragement nor exhaustion can obliterate, for long at a time, the exhilaration of obeying that law.

For those to whom professions are impracticable there is the good game of business, — hard work and full of responsibility, like all good games, demanding a knowledge of the rules and a sporting spirit, but thoroughly worth while when the alternative is stagnation. College graduates, inevitably, used to teach; now they are finding dozens of new outlets for their trained energies. Two Wellesley students started a tea-room, which has grown into the successful Wellesley Inn. Two Radcliffe girls, both students of chemistry, conceived the idea of devoting their learning to the making of perfect bread, and the Laboratory Kitchen of Cambridge resulted. A student of Stanford is managing concert tours in the Northwest and conducting a theater on the side, while two Smith graduates are making a brilliant success of a laundry.

These are only a random few out of dozens who are breaking new ground, many of them in occupations once called humble. The principle of their success lies in Herbert's old precept, "Do not grudge to pick out treasures from an earthen pot," or in the more modern realization that "it takes a lady to make good toast." The old joke in regard to the educated woman's domestic helplessness

is dying out. Personally, I believe that if college graduates would go into domestic service, that would soon be one of the most honored and highly paid of professions; for the thoroughness of their Greek verbs is upon them, and the beauty of good work has for them an enduring appeal. In 1900 there were twenty-four thousand girls in our colleges, irrespective of postgraduates: think what a force that would make linked into one great organization for the purpose of domestic reform!

One sees many women hovering on the shores of enterprise, waiting for capital or encouragement or a partner who will take all the responsibility. Now and then accident abruptly pushes in one who has never given such possibilities a thought, and she has to flounder as best she may in the new element. Fifteen years ago there was a young woman whose life had always been as care-free and luxurious as great wealth could make it. Then, in a night, she lost husband, fortune, — everything but courage. All that was left of her old life was a debt of a hundred thousand dollars. Her one practical accomplishment was the preparing of delicate soups and dishes for invalids, a result of natural talent and a cooking-school course, and so she established herself in a tiny hall bedroom with a gas stove and began to use her one weapon against adversity. She had a wide acquaintance, — and the soups were perfect. Out of that small beginning has grown a large and prosperous business for furnishing sick-room necessities of every kind, including surgical appliances; she has her own building, and every cent of debt is paid.

Her chief working principles, next to good materials, have been never to fail anybody and never to let slip an order or to break a promise that could humanly be kept. One night, when she was far enough along to allow herself

an occasional dip into her old world, she returned from a dinner at midnight to find that an order had been left for some unusual surgical appliances which she did not keep and which were needed for seven o'clock the next morning. She telephoned to several drug stores, but could not get what she sought, so she took a directory, called a carriage, and, still in full evening dress, drove about the city from one drug store to another, until at last she found what she wanted. It was after three o'clock when she went to bed, but the order had been filled. Professional sagacity would have indorsed such a course, but it was fundamentally a fine sense of honor — of obligation to the promise of her business — that carried it out. All enterprise is full of such emergencies, and those who fear to face them must "climb not at all."

Marriage, of course, — marriage as a fact and as a prospect, — the woman of business ambitions has to reckon with. The world is still old-fashioned enough to feel that a mother of children can have little choice of vocation. But for the discontented childless wives, hampered by lack of money, with no talent to develop and no real work, a coherent activity would mean salvation. There are very many of them, — women fretting at the petty emptiness of their lives, yet never taking hold in earnest to put these lives on a bigger basis, and they could take hold with a thoroughness not always possible to the woman who has the prospect of marriage still ahead. It is an unsettling prospect and tends to give to all enterprise a temporary, provisional character. It is easy enough to say, "Master your profession or business thoroughly, for, even though you may abandon it after a few years, the knowledge gained will enrich your whole life," but the fact remains that people who live in rented houses seldom work over them as they do over what is their

own, and a singleness that may be temporary has the same discouraging influence.

The only hope is to catch girls young enough and begin practical training for a career in school and college days, so that such preparation becomes the matter of course to them that it does to a boy. This is an idea that has gained definite headway in the past few years, and in many well-to-do homes, now, the girls are equipped to take care of themselves, should such necessity arise.

Thousands of young women have to go to work in ways that seem to them purely mechanical, with no future beyond a dollar or two more a week. There are more than eighty-six thousand stenographers in the United States, and by far the most of them spend their little leisure curling their hair and elaborating their blouses, seeing in their work no possible gain but a husband. Now and then comes one who realizes that here is the chance of a lifetime to learn the ways of business; she uses her intelligence as well as her hands, and presently she is promoted from the routine work, the forms and circulars, to the more intimate business, — for an employer is quick to profit by any sign of ability or education in his stenographer. She uses her spare hours to improve her English and keep up with the times, and in a few years she graduates into a business of her own; or sometimes she becomes her employer's confidential secretary, answering letters with only a word or two of suggestion, and receiving twenty-five or thirty dollars a week instead of the six dollars at which she started.

Any editorial office will pay well for a girl who has grasped the refinements of punctuation and can spell Maeterlinck without help; and yet, in all the eighty-six thousand there are surprisingly few who make any attempt to fill such requirements. Most of them prefer to pound

along on the same level, putting their trust in pink neck ribbons rather than in self-improvement. Because of this, and the resulting newspaper wit about pretty typewriters and their employers, the girls who would bring up the tone of the profession are inclined to try other fields. This is a pity, for few occupations give so much chance on so little training. A favorite business for the successful graduates is the running of independent stenographic offices. New York has at least forty of these run by women and employing anywhere from two to sixty girls. There was one which, in campaign time, made fifty thousand dollars in a single year.

The clerk in the shop has far less chance to emerge. Occasionally one becomes a forewoman or buyer, but they are too rare to make an appreciable per cent; the mass stays at three or four dollars a week. A college graduate, wishing to see work from the inside, once took a position in a department store. She did not lay aside her two-hundred-dollar sealskin because she was playing the part; in fact, she bought some new shirt waists, that she might appear as well as her fellow workers. Out of her three dollars a week she spent a dollar and a half for a room; the other dollar and a half bought a cup of coffee in the morning and a scanty meal at night. A week of this diet, together with the incessant standing (the store provided stools, but fined the girls for sitting on them), and the nervous strain of working in a slit crowded with other beings, brought her to the verge of self-betrayal: she burned to take the center of the store and shout denunciation on such work and wages.

She did give up, and devoted her energies to the Consumers' League, which has done so much to humanize the shopgirl's work; but to this day she can not enter a shop without remembering the grim alternative that confronts

the girl that does not live at home. These pin-money earners, who will work for any pay, are death and destruction to the woman on her own resources, for they keep wages below the living point. They have the right to work; what they must learn is the unselfishness of cooperation, that they may not degrade the value of labor.

In the factory the condition changes, for there there is no need to be well dressed and freshly laundered, and the pay is no less. Moreover, the demands of life among factory workers are satisfied with coarser conditions. Go lower in the economic scale and you find the woman who takes home work from the wholesalers, — who stitches fourteen hours a day on overalls, and earns, perhaps, seventy-five cents; or the drawn and haggard mother who toils with a pot of bitter tea always at her elbow and whose children begin to help as soon as they can hold needles. Not long ago there was a woman, deserted by her husband, who stitched all day on neckties, then crawled under her wretched covers and died with her baby, leaving two frightened children to find the way to help as best they could, with the forty cents due from the finished neckties as their inheritance. They fled alone through the night, half across a city still strange to them, to a woman inspector who had been friendly, and stammered their version of the terrible thing they had witnessed: they are now in a home, but the mark of that night has never quite left their faces. Such things may be too dreadful to tell; but they are not too dreadful to happen, year after year, where labor is the starved under dog.

WHAT BUSINESS MEANS TO ME¹

By JEREMIAH DWYER

BUSINESS has been the pacemaker in the world's advancement. It has been the power that inspired discoveries and conquests. It has been the civilizer of savage places. It has produced the means and resources that have made it possible for humanity to climb the ladder. It has set many rainbows in life's heavens. Business is the master artisan that makes nations.

Where there is no business there is decay. That decay not only is mental and moral, but it brings, too, physical degeneration. Business is the red blood in the arteries of the world. It develops life. And where there is sound, healthful business in the life of a people there is a constant striving for all the higher, better things that make for the good of humanity.

All this, speaking generally, business has meant to me. That word, to my ears, rings synonymous with much of the world's development and achievement. It has been the power that waked and thrilled with life and activity the dormant possibilities of the globe. In the concrete, I presume business means to me just what a life's work in almost any sphere of activity means to any man.

Success in some form is the object for which all are striving. Belief as to just what constitutes that universally sought reward of effort varies in the minds of men according to the ideas of the individual. Success, to my mind, is not contained wholly in the mere piling up of dollars. It lies, rather, in achievement in the broader,

¹ By courtesy of "System," Copyright, 1908.

more comprehensive meaning of that word — in the satisfaction of having proved that the work which has fallen to one's hand has been well done.

The real business man is a man of constant service to his community. He does more than merely provide a commodity that is needed. He moves in a sphere which allows the exercise of every good quality that belongs to human nature. He is not a speculator, operating on capital consisting chiefly of "nerve" and paper-built schemes, who tries to make something out of nothing and that at the expense of those upon whom he can impose. He creates something. He provides something. He discovers and supplies a legitimate demand. He meets a real need with the substantial thing that will satisfy that necessity. He is not solely a chaser of dollars. He keeps an eye on the making of profits in his business, else he must show his lack of good business capacity — but inevitably he works for the welfare of the community in which he moves.

You will find the manufacturer or the merchandiser who is constructing his house of business with a view to permanent habitation, expending his money freely in the upbuilding, extension, and perpetuation of his industry or store. He is building for the future, aiming at the continuation of the results which his energy and ability have created even after he shall cease to be the directing power of the institution. Thus — and this is the point I am seeking to make — a very large percentage of the money he makes from his business goes right back into the business. It is put back either for the improvement or enlargement of his plant or store, or applied to some other end which will aid in the perpetuation of the enterprise. His money, thus employed, is a factor in community improvement. In bettering his own condition he betters, as a

certain complementary result, the environment of his fellow men.

Such a man can not, by the very nature of affairs, become a mere money-grabber. He must seek, as I have said, a proper financial return on his products. If he fails to follow that rule he confesses that he has no business in the field of business. But — and this is our point — a very large percentage of the money rewards that come to the business man represents solely a means to an end. It affords the means of building more firmly, of constructing for the future, of securing sound expansion of business. And in thus building for himself no one can deny that he builds for the community in which he moves. A large portion of his business profits is turned to community benefits.

Whether or not he is influenced by altruistic purpose, the real business man plays his part always in conserving and advancing the public welfare. Business success demands it, business expediency secures it; for, as conditions of life better in the zone through which his activities extend, so the conditions for business better for him. The real builders of business — the men who want their establishments to live even after their efforts shall cease — contribute constantly to this result. By the very nature of the object which they seek, they are giving continually of their efforts and their resources, not only for the benefit of the present, but also for the good of the generations of the future.

Business has also meant to me, as it has meant to countless others, the endeavor to fit myself, to the best of my ability, for the work which has fallen to me. By reason of the natural conditions of the field in which he directs his efforts the business man must be a man of wide knowledge. In this day of business facilities that make

the span of the market place coincident with the boundaries of the globe, the never-halting, ever-changing events of all nations are constantly turning the kaleidoscope of trade conditions. And business genius and ability must be prepared to meet this contracting and expanding of the world's demand and supply. Without systematic study and acquiring of knowledge bearing on his particular line of effort the man of business fails to take to himself all the equipment of which he should stand possessed.

My life work has lain in the realm of manufacturing. The manufacturer — and I believe these statements apply to the man in any kind of business — finds it necessary to be fully equipped in the following respects if he is to gain the fullest measure of that success to which he aspires.

He must be a qualified judge of the value of all raw materials entering into the manufacture of his products, so that he may be prepared to take advantage of those purchasing periods that offer the best terms.

He must be a good judge of market conditions, so that he may handle the selling of his products along lines that will bring the best results to himself and his business.

He must be the possessor of an artisan's practical knowledge, so that he may know when he is getting full value for his investment in labor.

He must have a practical knowledge of the methods of work in each department of his plant, so that he may be sure that output and quality are up to the standard.

He must cultivate and develop — provided he has not been naturally endowed with these qualities — that tact and diplomacy and personal interest in men which may enable him to abate any friction or settle any disagreements that may arise among his employees.

He must follow set lines of business system. He must remember that the utilization of the most modern methods

for the handling of affairs always makes for advancement. In business this is the day of system. The business man who trusts to chance and circumstance finds his way beset with those obstacles which have been the reefs that have gathered many business wrecks upon their crests.

He must have loyal, competent organization in his business. And, in building for the future, he must have recourse to that foresight which builds sufficiently broad and strong to meet the growing demands of ensuing years. His organization must be built on those lines. What the crew is to the ocean-going steamship, organization is to business.

He must know men and know how to bring out the best that is in them. In attaining this result personality is indispensable. That creation of an atmosphere of personal relationship between employer and employees develops the individualism of the latter and inspires in them that personal power which, more than anything else, perhaps, brings loyalty of organization and earnestness of effort. This same personal power — one of the most important, success-building factors in business to-day — developed in an organization attracts and holds customers. It is just as important an element in the selling end as in the producing end of business. Developed in a spirit of genuine interest in men, it serves to lift business activity to a plane higher than that where every action and every result is measured utterly and solely by dollars and cents. In any event, it must be regarded as one of the most powerful instruments in business building.

Surely business acquires a deeper meaning when it is made to include such a preparation, such mental discipline and study of humanity. But it is necessary, for only he who enters the field fully panoplied and thoroughly equipped, can contend with those difficulties which usually

must be encountered in the struggle for progress and success.

In concluding, I can thus sum up what business has meant to me:

It has meant an effort to prove as far as possible worthy in a field which has been one of the major powers in the development of the life of the world. It has been the motive inspiring constant endeavor to attain success — broad, comprehensive success. It has meant the inspiration of effort to achieve, aside from making profit as a proof of business ability. It has meant the effort to build up an industry and an institution which, I hope, will be perpetuated for many generations to come.

It has meant satisfaction attained by contributing to the upbuilding and prosperity of my community. It has meant the constant effort to give true value, for the consumer looks for that value and it should be given him — honest methods win in business as in everything else. It has meant, further, the healthful, pleasurable occupation of my time and the employment of every effort to produce the utmost of accomplishment from the powers which may have been granted to me.

ANALYSIS AS AN AID TO BUSINESS ¹

By JOHN H. HANAN



ANALYSIS in business distinguishes the real business man from the speculator. To the keen, analytical mind in business there is scarcely such a thing as chance, for this art of reading the future by analysis removes the elements of uncertainty in any enterprise.

In whatever undertaking a business man embarks, he may either plunge, as the pure speculator does, or he may move deliberately, with a practical certainty of what awaits him. The tyro in business is ruled by impetuosity; the conservative and calculating man in business governs all his acts with an intelligent regard for cause and effect. Sometimes we hear it said that Smith, for instance, has a veritable second-sight, and that whatever he undertakes turns into gold as if by magic. If we study Smith, however, we shall find that his magic is only logic — and knowledge of human nature.

The business speculator leaps in the dark, the real business man never. The speculator may, perhaps, alight on his feet, but there are nine chances in ten that he will come down flat. The man who makes business a science studies out his moves as if he were playing a game of chess. Business, after all, is nothing less than a science. It is a gamble to many men because they choose to make it such.

Why are so many big mistakes made in business? Because the average business is too much a haphazard thing.

¹ By courtesy of "System," Copyright, 1908.

Forty years ago I was impressed with the value of analysis in business, and that hour was the beginning of whatever success I have had. My father had a small shoe factory in New York and sent me out on the road for him.

The first town I visited was Detroit. Equipped with my sample case, I set forth to conquer the city. I was full of enthusiasm. I knew we were making good shoes, and I did not see why there should be any difficulty in building up a trade in the West. I had n't done any particular analyzing on the subject, but in a general way it looked good.

Business men often go into enterprises simply because they look good on the face.

The first shoe merchant I visited in Detroit took some of the enthusiasm out of me. A vivid recollection of him lingers in my memory.

"I have come to sell you a consignment of Hanan's shoes," I said to him, displaying my samples.

"Hanan?" he asked. "Who is Hanan?"

"The manufacturer of the best shoes on the market," I answered, taken aback.

"I never heard of him," he retorted. "I am buying the XXXX brand of shoe, and I don't care to experiment with Hanan's or any other unknown brand."

Now, the XXXX brand was inferior to my own, and I knew it very well; but since the dealer had never heard of Hanan there was little hope of convincing him. I went away without effecting a sale.

The next call I made was a repetition of the first, and so it went, all day. When night came I was thoroughly discouraged. Nobody in Detroit had heard of Hanan, and nobody wanted Hanan's shoes. That evening I went to my room at the Russell House and sat down to think.

I then did my first analyzing of a business proposition. Why was it that Hanan's shoes would not sell in Detroit? I knew that we had better values to offer than XXXX, against whose competition I had made no headway. I was confident that we were making better shoes than any of the manufacturers who had possession of the Detroit field, and yet the dealers had only laughed at me.

I went over the whole proposition of business success. Mentally, I opened an account with "The Future of Hanan's Shoes." I weighed all the elements that were to add to or subtract from that future. I had in my mind a sort of ledger account — an account covering the future instead of the past. There were many debits and credits, if I may call them such, comprising every argument I could work out.

I took up a pair of sample shoes and looked them over. I was proud of them, and I knew perfectly well that the trouble did not lie in the shoes themselves, nor did it lie in lack of people to buy them. The market was there in the West; the problem was to get into that market and stay in it. When I struck a mental balance in my account with the future one thing stood out prominently. It was the value of a reputation. Analysis had reduced the problem to one factor: that business success comes from having a reputation.

This may seem a simple proposition to reason out, yet there are a lot of business establishments that have not done this bit of analysis.

However, I carried my analysis of the future further than this. Having decided that what my shoes needed was a reputation, I formulated a policy that very hour from which I have never allowed myself to depart to this day. Up to that time, our goods had borne no brand. There was nothing on them to indicate that they were

Hanan's. I now resolved that every pair of shoes that left our factory should be branded with our name — not only once, but several times and on various parts of the shoe. They should be marked indelibly.

I know of nothing in my business life that has been of more value to me than the analytical study I made that night of the future of Hanan's shoes, and the fixed policy that followed it. It was an analysis based on human nature, and its logic has been demonstrated countless times. On numerous occasions I have had to fight against influences tending to cause a deviation from this policy, but I have resisted them steadfastly. For example, I was once offered an order for a sum that may seem fabulous — one hundred thousand dollars — if I would leave the Hanan brand off my goods and permit the use of certain dealer's names instead. These offers only proved the truth of my reasoning. If the brand was worth to others a hundred thousand dollars for an order, it was worth more than that to me.

When I received these generous propositions I had occasion to look back with satisfaction to that night in Detroit when I analyzed the future and put a correct estimate on the worth of Hanan's name stamped in our shoes.

Whatever a man's business, and whatever the proposition that confronts him, he can get right down to the fundamentals of the thing if he chooses, eliminating to a large degree the element of guess that makes some undertakings so uncertain. Many businesses have vacillating policies. This is merely an indication that analysis of the future is lacking.

A business may be conducted systematically as far as the system concerns records of transactions concluded, and yet may be entirely unsystematic when it comes to

transactions contemplated. It is well to discriminate carefully in this connection.

Are you in the habit of applying the same degree of analysis to the undertakings you are planning as to the undertakings that have gone into history, recorded in your ledgers? Perhaps you never thought of the matter in this light. You have studied bookkeeping systems and modern ideas for saving and tabulating business information concerning your daily acts, but it may be that you never opened an account with the future. It is more difficult to analyze the future than the past, but in some respects it is even more essential.

You can take your ledgers and from them tabulate the facts and figures that went to make your success or failure. You can group these statistics, arrange them in brackets, and reduce them to analysis of the minutest detail. If you study all the ramifications of this detail and trace each result back, logically, to its cause, you will learn whence came your success or lack of success. You will find, too, that in all your processes of analysis every result was built practically on some attribute of human nature — either in yourself, in the people who bought your goods, or in your competitors. While you have been analyzing your business you have been analyzing humanity.

Reverse the process. Project the analysis into the future, and see if you can dissect the causes that are to produce results for you during the coming year. Relentlessly cut out prejudice and your own desires and inclinations. Keep your analysis down to the bedrock of human nature. Don't soar above the heads of humanity. Of course you may have elements to consider that did not enter into your analyses of completed undertakings, but to all intents you will have to take into account the same immutable laws of mankind.

Open a mental ledger account with the future, or, if you prefer, tabulate your analysis on paper. Enterprises reduced to cold facts and figures, and transcribed in black and white, often appear different from enterprises pictured to you in the glowing words of a promoter. The imagination governs many an undertaking, which, if reasoned out in the remorseless logic of mathematics, would resolve itself into its true components. In your consummated transactions your bookkeeping searches out for you the mistakes and hidden leaks. So, too, the detail of your analysis of the future will indicate to you the points where impulsiveness and reason diverge.

For example, to take a rough illustration, you may be supplying the capital with which to manufacture a certain piece of machinery. The inventor is enthusiastic, and talks to you about the possibilities of the machine until you are ready to put up the cash. There is no doubt about the invention being a fine one. It will do everything claimed for it.

You build an expensive factory and organize a force of executives and workmen. For a year you make machines, and then you sit down to reason out why you have run so far behind your expectations. You figure it out and analyze it, and discover that you forgot to take into account the human element. The machine is all right, but the market for it is measured by certain factors you neglected to consider. You did not estimate the number of persons who could use your machine under existing conditions and competition. All your plans were too much influenced by the glamour of the imagination.

You were impetuous instead of analytical. You might have analyzed the proposition just as well before you started as at the end of the year, with its heavy losses.

Such an illustration might be trite if it were not borne

out so often in actual experience. It is difficult to understand the lack of foresight displayed in many business enterprises. Men forget to analyze the possibilities involved. We are continually seeing concerns start out with a flourish of trumpets, and end within a short time with a dirge.

I have in mind an instance that came to my attention quite recently. It was a manufacturing enterprise that enlisted a capital of sixty thousand dollars, and lost it within a year. I foresaw the result at the beginning, but those who were engaged in the enterprise were enthusiastic. They were not analytical enough to trace out the causes that would lead them to certain failure.

A simple study of human nature would have revealed the termination of the enterprise just as positively as the ledger accounts revealed it afterwards.

One of the most certain methods of anatomizing the future of an undertaking is to analyze the men who are to direct it. Analyze the promoter who wants you to invest your money. If he and his logic will stand the test of your pitiless dissection, then put your cash into the thing; otherwise keep clear of it.

Analyses of men will write the fate of their businesses as plainly as if shown by prophecy. Yet those men themselves will fail to see it. They never have cultivated the quality of analysis; they cannot analyze even themselves. To learn to dissect one's self is the first duty of every business man. He can hardly expect to read others until he knows himself.

To go back to my own experience: since that night in Detroit I have made it a policy never to take up an enterprise impulsively, but to analyze it as I would analyze a problem in mathematics. In the beginning I said to myself: "The business of making shoes deals intimately

with the human foot. Therefore, a shoe manufacturer who expects to create a reputation by the quality of his goods, and by stamping his name upon his output, ought to analyze the human foot. The foot is his business proposition. In making a shoe there are more things to be considered than the mere necessity of having a sole, an upper, or a lining."

I set to work to study the foot. I analyzed the instep, the toes, and the heel, not only separately but in their relations to one another. I studied the human element of making a shoe that would be successful in the purpose for which a shoe is designed — protection, comfort, durability.

For twenty-five years I made my own models. In doing so I knew that I was analyzing the elements that were contributing to my success as a shoe manufacturer. If I could make the analysis of the foot harmonize with the analysis of the shoe, then I was accomplishing the ends of my business.

The same idea I applied to all the various enterprises that developed as my business expanded, and I believe that every man will be successful in proportion to the manner in which he makes the shoe of analysis fit his business. It is sometimes a little difficult to apply a concrete idea to a thing that seems more or less abstract, but the abstract element disappears to a large degree when you get down to definite analysis.

This is the remedy for every doubtful situation and every business difficulty. Keen analysis, following out the ramifications to the minutest detail, will illumine the way for the manufacturer, jobber, or retailer, and prevent many a business mistake. Is the trouble in the toe of the shoe, the heel, the sole, the lining, or the leather? Analyze the shoe and the foot and find out.

In an advertising proposition this element of analysis

is often seen to good advantage. I have been confronted with it many times. When a business man goes into an advertising campaign of big proportions he is simply analyzing the future and staking his money on the accuracy of his dissection of human kind. He takes his knowledge of the market and his conclusions concerning human nature and invests his money on the result. "Clever advertising," we hear it called sometimes. It is clever simply because it is advertising based on the fundamental laws of life. Apply the same rules to all departments of a business, and you will get results equally good.

When I entered on my first big campaign of advertising I reopened, as it were, my account with "The Future of Hanan's Shoes." I was investing several hundred thousand dollars in a new analysis of the years to come. On the debit side of the mental ledger account I entered this sum.

On the credit side went the reputation my goods had already attained and the probable results of the advertising. Again, on the debit side I had to put down the reputation that my competitors had and the opposition I might have to overcome. So on, into a multitude of considerations, I had to go, debit and credit, for and against, until I struck a balance.

This balance was largely in favor of the proposition. Then came the further analysis of the methods to be pursued in the advertising itself. They had to be worked out and analyzed in still greater detail. The result was the first shoe-cut advertisement ever printed.

There may be instances in which successful advertising campaigns have been undertaken as a grain speculator buys wheat, but I do not recall any. The successful advertising man is analytical to the extreme, projecting every result from a definite cause. For every proposition

he has a corollary; every part of the plan must have its demonstration.

The habit of analysis in small things enables a business man to move confidently and firmly in large affairs. I remember that a number of years ago, when I announced my purpose of establishing retail shoe stores from which I could sell my product direct from factory to consumer, most of my business acquaintances predicted my speedy downfall. On every side I heard the prophecy: "John Hanan is committing business suicide. He may know how to make shoes, but he does n't know how to retail them. Why hasn't he the sense to let well enough alone?"

At that time it was an unheard-of thing for a shoe manufacturer to sell to the consumer. My acquaintances believed I was plunging into a great speculation, with the chances all against me. But a new enterprise is not necessarily a gamble because it is new. If it follows the logical lines of human nature and will bear this test of discriminating analysis, it is just as legitimate a business undertaking as if it belonged to a type a hundred years old. There was no speculation about this enterprise. I had satisfied myself of the logic of it by analyzing its possibilities away out into all their component fractions. The results justified the analysis.

Advice is something that business men get freely, but the only sort of advice they should heed is that which can be analyzed into something having real logic. If men advise you to do this, or not to do that, apply the scalpel to their warnings. If you find any real value in what they have to offer, incorporate it in your own analysis. The original and independent business man makes his own analysis true to nature, and goes ahead.

On another occasion a troublesome situation confronted

my business because of the action of certain shoe manufacturers whose competition threatened to be a serious disturbing element.

I got plenty of advice. "Answer the advertisements," I was urged. "Get back at them. Come out in a broadside advertisement yourself. If you don't, you are destroyed. Your competitors will carry off your trade."

Once more I opened up that convenient account, "The Future of Hanan's Shoes," just as I had opened and balanced it many times before. The debit and credit sides embraced a most careful analysis of human nature.

While the natural impulse was to plunge into an impetuous and hot-headed advertising controversy that would have cost a fortune and perhaps ended in disaster, the other course appealed to me as logical. Again I struck a balance in favor of silence.

The disturbing element I had feared had no effect in the end on the steady expansion of my business.

In relating these incidents of my own experience I trust I have given some idea of the value of a consistent policy of governing a business by logical analysis, day by day and year by year, always applying this test to undertakings big or small.

COÖPERATIVE TRADING¹

By J. W. STANNARD



SIXTY-THREE years ago twenty-eight weavers in a small manufacturing town in the north of England formed themselves into a society to supply their families with the necessities of life.

Their meager initial capital of a few dollars was accumulated by small weekly payments of a few pennies.

Mark the growth from this tiny beginning to the present day:

2262 individual coöperative retail organizations.

Membership of 2,258,158, representing 9,000,000 people — nearly a quarter of the population of the British Isles.

A share capital of \$150,000,000.

An annual turnover of \$500,000,000 and a profit of \$50,000,000 each year.

After this two coöperative wholesale societies, the English society organized in 1863 and doing a business of \$125,000,000 yearly, and the Scottish, organized five years later, doing a business of nearly \$40,000,000 yearly.

Finally a string of manufacturing plants and allied industries, including everything from a coffee plantation in Java to a huge bank in England, having a turnover of \$750,000,000 yearly.

The whole movement closely held together by a magnificent organization and doing an annual business of nearly \$1,500,000,000.

It may be said that Great Britain is the home of the modern coöperative system. Spain has had its coöpera-

¹ By courtesy of *System*. Copyright, 1908.

tive *Compañía Gallega* for centuries, Portugal its *Sociedade Familiar*, Russia its *Artel*, and other Slavic countries their *Pomotch*, their *Druzhina*, and their *Wataga*, all of which still exist in their crude original forms.

But it has been left to Great Britain to put the coöperative movement on a sound, modern, commercial basis, and to make it the greatest individual industrial force in the world.

The principles of coöperation were first preached to the masses by Robert Owen at the beginning of the eighteenth century, but not until the year 1844 was the real foundation of the movement laid in England. That year was a black page in England's industrial history. Machinery was being extensively introduced and was displacing manual labor to a great extent, and the effects of the resultant unemployment were further intensified by the effects of the corn laws, which, by artificially raising the price of bread during a period of industrial depression, created conditions which have given to that period of England's history the significant name of the "Hungry 'Forties."

It is not surprising, therefore, that the ideas of Robert Owen should have borne such fruit at this time. Forty Rochdale weavers set themselves to carry Owen's theories of abolishing "profit upon cost" into practice. A meeting was held, and it was decided to form a society for the purchase and distribution of goods for the benefit of the members, returning to each a portion of the "profit upon cost" included in the retail selling price. The initial capital was accumulated by means of small weekly payments, and, as the "Rochdale Equitable Pioneers," the society began to lay the foundation of that imposing structure which Lord Roseberry has so aptly named "A State within a State."

It is significant to note that not a single industrial coöperative society in Great Britain has been launched with any of the advantages possessed by private concerns. They have been organized, financed, and managed by workingmen. Their organizations are not distinguished by any remarkable systems or novel methods, and it would be difficult to find the more modern appliances in use in many of them, yet they grow into huge, profit-making enterprises, often in competition with well-organized, efficiently managed private concerns possessing ample capital.

Situated on the eastern borders of Greater London is the town of Woolwich; its prosperity is dependent on the great arsenal situated there, which employs from eight to sixteen thousand men, according to whether the British army is on a peace or a war footing.

Early in November, 1868, a meeting was held at Woolwich, the outcome of workshop discussions by coöperative enthusiasts, which twenty-seven workingmen attended. They decided to form a coöperative society on the lines of the pioneer society at Rochdale, and organized the Royal Arsenal Supply Association, now the Royal Arsenal Coöperative Society. The amount of each member's share was limited to \$5. Twenty members paid subscriptions which totaled less than \$25. Further subscriptions were received during the following week which brought this small capital up to nearly \$40, and on this a start was made. The first purchase was a chest of tea, and was followed by purchases of butter and sugar. A small workshop in the house of the secretary was the first store. The bench, covered with American cloth, served as a counter, and the bed of the lathe as a desk for the secretary and treasurer. All services were given gratuitously, and the members of the committee acted both as

buyers and salesmen. The "store" opened for business on Saturday evenings only.

At the end of the first quarter the capital had increased to \$100, the number of members to forty-seven, and the total trade for the term had been slightly over \$300. The "store" was then transferred to two small rooms, and by the end of the third quarter the society had accumulated profits to the extent of nearly seventy dollars.

Four years later the first store was opened for the sale of groceries and dry goods. For the first half-year it was opened only on four evenings a week and on Saturday afternoons; but the increase of business made it imperative that it should be opened daily.

As a consequence a regular salesman was engaged, his appointment dating from July 15, 1873, four and a half years after the society's organization. From such small beginnings has grown a business which at the end of the year 1907 had a total membership of 26,935, a capital of \$1,500,000, and sales amounting to over \$2,500,000.

Not until 1878, in which year the sales of the society reached the total of \$125,000, were any salaries paid to officials; up to this time the whole of the secretarial work had been performed by one of the members, who was an employee at the Arsenal, and who occupied his evenings with the work of the society. At this time, however, he was persuaded to devote his whole time to the society's work. As the business grew, new departments were added: in 1876 a bakery was opened; two years later the sum of \$500 was voted for the establishment of a library and reading room for the use of members; tailoring and shoemaking departments were added in 1879; a butchery department in 1884; a furnishing department in 1885; a farm and coal department in 1886; milk, fruit, and vegetables departments in 1887; a confectionery de-

partment in 1893; and a works department, which has since erected all the society's houses and new stores, in 1896.

As showing the progressive character of the Woolwich Society there have been fitted up in one of their large branches two magnificent barber shops of the most modern type. One of these is for women and the other for men, and in both cases they are far in advance of anything provided by private enterprise in the district. The society also has its own bakery, which, in addition to making an average of eighty-six thousand loaves a week, also makes cakes and pastry for sale in the society's stores.

During the last decade the society has entered on a large scale into the real estate and lending business. In 1886 a farm of fifty acres was purchased, and ten years later 150 more acres were added to this. Modern residences have been erected on this land — 680 up to the present time, all of which have been sold. The houses are sold to members on easy payments. The society itself made the advances at first, but now more and more it urges its members to deal with outside building societies. The houses are sold on the basis of a 90 to 99 year ground rent lease. The unsold houses are let on weekly tenancies, while the unoccupied land is leased on six months' tenancies.

How the society reached out for new duties is well typified in the fact that with the commencement of building on the estate it assumed powers to engage in the business of insurers. A covenant is inserted in all the leases that the fire insurance connected with each house shall be lodged with the society, and it also insures the residences and furniture of members.

The land and mortgage advance departments of the society form a very important section of its business, for

they have done much, not only to consolidate the members by widening their interests in the society, but as landlords have given the society a standing which it could not have obtained in any other way.

The organization of the retail society is much like that of a corporation. The ultimate control is lodged in the members. These members elect a managing committee of nine directors, which, like the board of directors of a corporation, is in control of the activities of the society. Four subcommittees have direct control over the business, each over a certain department. Each committee consists of four directors and a chairman; the chairman of the directors, elected semiannually, is also chairman of each committee. These subcommittees — the grocery committee, the drapery committee, the estate committee, and the finance committee — cover every possible activity of the society. All important matters come up to them and pass their decision before going up to the committee of nine or being put into effect.

Next in power is the general manager, who controls the entire business, as far as the trading departments are concerned, under the direction of the directors. Each department is in charge of a manager and buyer combined. He has the duties of the head of any department in a large retail establishment: he buys the goods and is in charge of all stocks of his department; he has nominal control over the sales and employees of his department. But he is distinct from the store managers: goods and salaries are under the buyers, general management is under the store managers.

All financial matters and transactions with members aside from their purchases are in charge of the secretary. He handles all money and the purely corporate affairs of the society. He has, in addition, charge of the estate

department, mortgage department, and insurance department since these relate primarily to finance.

The sales methods and the accommodations provided by the coöperative societies differ as good business dictates, depending entirely upon the competition they have to meet. The advertising and the sales end of the business is handled much like that of any other retail store. The stores realize that they must do a big business in order to have the advantage of large-scale economies; they realize that in order to do a big business they must offer inducements, must give as good prices to their customers as any other source of supply open to them. But they also realize that, inasmuch as their customers get the benefit of their profits, it is not necessary to put their prices too far under the market.

For instance, in the manufacturing districts of the north of England members of the "Coop," as it is familiarly called, are usually content to go to the store, make their purchases, and take them away with them. In many of these districts the distribution of goods is confined to the hire of a heavy truck for the Saturday afternoon delivery of heavy parcels and bulky goods. In the London area, however, coöperative societies are necessarily in very active competition with the huge dry-goods stores, and with trading concerns having a large number of distributing branches throughout the London area. As a consequence, not only have the lowest possible retail prices to be maintained by the coöperative stores, but distribution facilities, equal in character to those of their competitors, have to be provided. The Woolwich Society has fully realized this, and it is in no way behind any competing firm.

In addition, particular attention has been paid in the erection of business premises to make them as attractive

as possible. The architecture is of the best, and costly and attractive interiors are the rule. Efficient lighting is another point which has been given careful attention. Some idea of this can be obtained from the Links branch, in only the exterior lighting of which fifteen five-hundred candle-power lamps have been used. As the store faces an open common, the effect from a distance can readily be imagined.

In order to get its proper share of the trade, the Woolwich Society maintains an efficient advertising department. The chief mediums for its advertising are three.

In newspapers, two kinds of advertisements are used, to increase business: advertisements of goods, either general or special; and advertisements of the society itself, inviting enrollment.

The society also issues a periodical, which is devoted entirely to announcements and invitations to join the society and advertisements of the services and goods of the various departments.

The third medium of publicity is through hoardings, which are used effectively. The society has also fully realized the advantage of effectively displaying its wares. The arrangement of the interior of the stores is designed to produce an effective display. A constant interest is maintained in displays by the giving of four prizes to each department every year for the best dressed window.

The managerial success of the coöperative society is chiefly due to the natural advantages coming from operating on a huge scale with a consequent reduction in expense, and to dominating the market both in buying and in attracting trade. The very fact that outside of the organization of the membership of the society there is nothing unusual in their conduct, in their buying, selling, and operating methods, is a good sign; for it shows that they

are using the same businesslike, exact methods that obtain profitable results under individual ownership.

In industrial coöperative societies the principle is generally followed of paying a fixed interest on capital, and dividing the profits among members in proportion to the amount of their purchases. As all the various coöperative societies work in alliance with one another, and with the exception of current accounts and local investments deposit their money in the Great Coöperative Bank owned and managed by the Coöperative Wholesale Society, their financial stability is practically guaranteed, and an enormous amount of the private capital of members is invested with the societies at interest.

No member, however, is allowed to own more than two hundred shares at five dollars each in a society. In some cases the minimum number of shares allowed is one. In the case of the Woolwich, however, it is two. Most exceptional opportunities are offered to persons to enable them to become shareholders, and initial deposits of only twelve cents on each five dollar share are required, together with twelve cents for the member's card. Thus membership can be obtained for an initial payment of about thirty-six cents; and the bonus due at the end of each quarter can be utilized for the purpose of paying the balance due on shares.

Bonus rates vary according to the district in which a society is located. In districts where the coöperative principle is strong and where, in consequence, good prices can be maintained and costly facilities in competition with local traders are unnecessary, as much as twenty per cent on every five dollars' worth of goods purchased is paid quarterly.

In other districts conditions are such that so large a bonus is out of the question, and as low as six or seven per

cent is paid by several societies. In order to facilitate the payment of this bonus, metal checks are given with each purchase, representing the actual amount of money paid. When sufficient of these have accumulated to make five dollars they are exchanged for a check representing that amount, and when the bonus payments are made these five dollar checks are handed in in exchange for cash, or a credit to the member's share account.

In some cases membership is limited to one member of each family, but in the case of the Woolwich Society any number of members of the same family may be members, and have equal rights, provided they are over sixteen years of age. Most of the retail societies allow half bonus to non-members; and this proved very attractive in many districts where the prices of goods on sale at the coöperative stores are maintained at the same level as those of private concerns.

The rates of interest paid on share capital vary slightly. In the case of the Woolwich Society interest on share capital is allowed at the rate of four and one-sixth per cent. As it was found that many of the members were inclined to invest more than the maximum amount of \$1000 allowed, however, facilities for further investment were provided by the issue of bonds having a face value of \$125 and bearing interest at the rate of four per cent, the capital being withdrawable at six months' notice. The total amount of these bonds already issued, including accrued interest, amounts to the sum of \$175,000, an astounding evidence of thrift, especially when it is considered that practically all the residences erected by the society are also owned by its own members.

In order to show the great advantage to workmen which membership in a society of this kind provides, take as an example a member of the Woolwich Society who spends

an average of \$2.50 weekly at the society's stores. This is a very small amount for the average working-class family, and when it is considered that Woolwich Coöperative Store prices are as low as those of private traders in the locality or lower, while on account of the necessity of providing distribution facilities and other competing influences against the private trader the bonus paid by this society is less than half that paid by some in the northern manufacturing districts, it will be realized that this is far from being an extreme case. For the payment of twenty-five cents, membership and two five-dollar shares are secured.

Supposing that no further payments were made by the member, and the bonus on his purchases of two and a half dollars' worth of goods per week allowed to accumulate, he would, in nine years' time, have to his credit more than \$100; and in twenty years' time, would practically have \$500 to his credit, which he could withdraw at any time, and this without the payment of any more than the quarter necessary to secure his shares. He can purchase the same goods, at the same prices, and have them delivered with the same promptness, as he can by dealing with the private trader, and yet at the same time be laying up for old age a considerable sum of money.

These facts afford the reason and form the basis for the success of coöperative trading. Add to this the fact that the societies have always been strenuous business getters; all devote a certain proportion of their income to educational and propagandist purposes.

COLLEGE MEN IN BUSINESS¹

BY H. J. HAPGOOD



FIFTY years ago methods alone might have spelled "success," but to-day men, together with the methods, are the essentials.

The great importance of the human element in business is shown by the increased attention which it is receiving. Even ten years ago the great majority of employers conducted this feature of their business by rule of thumb, giving it secondary attention, and that only during their odd moments. Nowadays, however, the heads of a great many large business concerns aver that they give more time to the selection of employees than to any other branch of their work. They believe this plan pays. The result in every case is a force of men who are first-class in every respect. The employers know them all from the general manager to the lowest clerk, understand their capabilities, and are always certain just what can be expected from them in the way of work. A force of men which has been intelligently and carefully selected and in which the capabilities of each member are known to the employer is one of the best assets any business can have. It constitutes a supply of human capital which is constantly increasing in value and which is absolutely essential to success.

Years ago, in the days of small things, a man's employees were not so essential for his success, for he had time to give personal attention to the various departments of his

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business. Nowadays, however, a large employer must have men who can give results without being watched — men with the inclination and ability to think as intelligently and work as hard as if the business were their own. To secure a sufficient supply of such men, there have grown up organizations of employment experts and special employment departments in the charge of high-salaried men who devote their entire time and energy to searching for capable men and putting them, when found, where they can work to the best advantage.

As head of one of these organizations, which is retained by over twenty thousand leading employers to supply all the men they need for the more responsible business and technical positions, I have had exceptional opportunities for ascertaining the kind of men employers want. A special department of our business is devoted to supplying employers with young men of little or no experience, and the records of this branch furnish valuable data on the subject of what training best fits a young man for success in the commercial world.

“What kind of qualities are demanded in men capable of being trained to fill responsible positions ?” A leading newspaper asked this question some time ago of five hundred successful business and professional men, most of whom were themselves employers. There was a singular unanimity in the replies received. Ninety per cent named “capacity for hard work” (some of them called it persistence or energy, but they all meant the same thing) as the first essential quality, and nearly as many considered “honesty” next in importance. It is safe to say that this is the general opinion of the business world, and that if twenty thousand employers had been asked the question instead of five hundred, a large majority of them would have given the same reply.

One employer forcefully puts the matter thus: "What the business world needs to-day is not more ability. We have enough of that; in fact, I sometimes think we have too much. What we need is more men who can and will use the ability they have, faithfully and honestly. What we want and are willing to pay well for is men who combine with their ability, education, and natural talents, the capacity for hard work."

I regret to say, however, that men with this capacity for hard work and this strict integrity appear to be born, not made. But there are many in whom these qualities are not highly developed who will prove extremely valuable if they receive the proper training soon enough. Therefore, I believe the best way to build an honest and hard-working force is to take on men when they are young, give careful attention to their training, and bring them up in the way they should go. This is the only sure way to build up just the sort of force you want.

By young men, I do not mean those who leave school before they have reached the grammar grade, but rather those from eighteen to twenty-three years of age who have received a good thorough education, either along general lines or in some special branch, and who are mature enough to increase quickly in value in spite of their lack of experience.

In advocating young men I do not mean to underestimate the value of age and experience. There are few concerns which could do business successfully with a force composed entirely of young men of necessarily limited experience. But too many old men are an invariable sign that the firm is drying up. It is no reflection on the ability of men who have given years to a business, but have already passed the prime of life, to advise that every employer keep constantly on hand a force of bright,

capable young men whom he may train to take the places of the older men when the latter die, resign, or cross the narrow line which separates valuable experience from old-fogyism.

After he has learned the value of young men, the employer still has to decide what particular type of young man makes the best employee. For instance, is the city-bred man who lives with his parents to be preferred to the man from up in the country who comes to the city to live in a hall bedroom and make his fortune?

Where knowledge of the city is not essential at the outset, I believe as a rule the country-bred man makes the better employee. He may be a trifle slower and more awkward than his city brother at first, but he has the advantage of good habits, of not being afraid of long hours, and of being willing to start at a very low salary. The city man is rarely entirely dependent upon his own resources and, therefore, lacks a strong incentive to faithful effort, while the man from the country knows that he must make good or walk back to the farm.

What is the value of college training as a preparation for business? It is a mistaken idea to suppose for a moment that colleges or universities or technical schools can create ability. If they could do that, our institutions would be unable to accommodate the army of students which would pour in on them. College training can, however, develop a man's ability, and can, therefore, increase his ultimate value in business.

Old Gorgon Graham says in his inimitable letters, "Anything that trains boys to think and think quick pays." This is exactly what a college education does. It teaches a man very few things that he can make use of in business, but it teaches him how to acquire knowledge of new things and to acquire it quickly. It does not give

him brains; it teaches him how to use what brains he has. For the first two or three months the average college man in business is worth no more than a sixteen-year-old boy who has begun work on leaving the grammar or high school. At the end of that period, however, he begins to increase rapidly in value, and before two years are past he will be earning more money than the man without the college training who had four or five years' start of him in business.

The only way to satisfy yourself as to the usefulness or worthlessness of college men is to watch the results obtained by other employers who employ them, or better still to hire a few yourself. A notable instance of the value of college men is furnished by the Western Electric Company, which began employing college men about ten years ago and has found that ninety per cent of them make good, as compared with ten per cent of the men who enter business on leaving the high or grammar school. A large percentage of the executive officers and heads of departments of this great company are college men who have worked their way up from the ranks.

If an employer wants a man to address envelopes or keep books all his life, he would better not hire a college man. The college man becomes discontented in such a position. He is perfectly willing to start at the very bottom of the ladder, but his training has given him the ability to do better things and the ambition to climb higher. If the employer wants men whom he can start addressing envelopes or keeping books with a view to some day putting them at more responsible work, he can use the college graduate to advantage.

It is a frequent occurrence for well-known men to tell me: "I have tried a college graduate and found him absolutely no good; I wouldn't have another college man in my establishment."

I invariably ask: "Where did you get your college man?" and I find that they hired the son of some particular friend or relative — a man whose college education simply increased the lack of brains and energy with which he entered college.

The value of any force of men lies in its selection. The college man should be chosen as carefully as any other employee. It is a mistake to suppose for a moment that a college education makes him a man. In choosing college men, the same care must be exercised in order to get men with energy and determination. Those men who have worked their way through college deserve special confidence.

The up-to-date employer will appreciate the value of his employees and will make a careful study of the relative worth of the different classes of men whom he engages. Of course no set rule can be made, for varying conditions will set different standards. The experience of many employers, however, shows that it is well for every establishment to have growing up with it a large force of energetic, capable young men, and that other things being equal, country-bred boys and college men offer the most promising material.

Men succeed according to their capacity for hard work and their honesty, and according to this, college men are more apt to possess these qualities than others. Statistics based on data gathered from the experience of a hundred business houses and covering a period of three or four years show that about ninety per cent of the college men are successful in rising to large salaried and responsible positions as compared with twenty-five per cent of the non-college men. According to these figures \$800 a year is the limit of the non-college man, who has at least four years' start of the college man, and in some cases longer.

Only ten per cent of the college men are absolute failures, and seventy-five per cent of them rise above \$1200 a year.

There is no doubt that college graduates are the chief and best source of supply for the reserve force which every progressive firm should be accumulating. The advantages of those with only high-school training should not, however, be overlooked. Many of the large city high schools, in fact, give courses that are almost equal to those of the small colleges.

In some branches of business, high-school men are perhaps preferable to college men, especially in routine clerical work, as the man fresh from high school is usually a better penman and quicker at figures. The college man is, however, almost always superior in judgment, knowledge of human nature, and other qualities which come with age, and the employer who wants a young man to grow up with his business and develop the right ability for a responsible position is taking great chances in hiring one who has had less than a high-school education.

Men who have worked their way through college are most likely to prove valuable provided they are placed in congenial work. The very fact that they made their own way is fairly good proof of grit and capacity for hard work, and in earning their expenses they have brushed up against business more or less and gained experience which is bound to prove valuable, even if only to show what work they are best fitted for. One or two of the largest employers of college men show a marked preference for those who had to make their way, and the man whose expenses have been paid by some one else has to look very good indeed in order to secure even a hearing. ;

It is well to consider a man's physical strength as well as his mental ability and character. A Pittsburg employer, who during the past three years has hired and

trained up in a large department nearly one hundred college and technical schoolmen, says that a large percentage of the failures among them have been due to lack of physical force. "This has not taught me to seek for the athletes and the men who hold the strength test records, but it has taught me to turn down an otherwise good man, unless he looks in first-class health and able to stand a pace which is bound to be rapid in this business."

Many employers who are impressed with the advantages of college men are doubtful as to where they can be used to the best advantage. One remarked the other day, "I should like to try out half a dozen young graduates, but I don't know what department to start them in." The answer to this is that they can be used to advantage in any department where there is opportunity for a young man to learn and to advance as he makes himself valuable.

In sales work college men have been found particularly valuable. The life insurance companies were doubtless the pioneers in using them in outside work, but now publishing companies, bond houses, office appliance firms, and mercantile and manufacturing houses of all kinds are employing hundreds of them every year to strengthen their sales forces. A New York publishing house put a young New England college man into new territory in July, 1905. He made good — emphatically so. During his first six months he sold more goods than any new man had ever done in a similar period. The sales manager of the company expressed surprise that he had done so well. The young man replied, "If I could earn my way through college by selling subscription books, I ought to be able to make good with you."

It being impossible to judge accurately of a man's fit-

ness for selling work until he has been given more or less of a trial, many firms have found it a good plan to conduct training schools for young college men. They take the men about July 1, and for six, eight, or ten weeks familiarize them thoroughly with the line of goods and the best methods of selling them. During this educational period the men are paid a bare living salary with the guarantee that if they master the details of the business and show signs of selling ability, they will be given positions as salesmen on an attractive salary and commission basis. In this way, during the past few years, two or three notably successful sales forces have been organized.

In straight clerical work the young college man is often at a disadvantage, owing to his poor penmanship and his ignorance of bookkeeping, but the quickness with which he picks up general office details is often surprising.

Unless a man is wanted for technical work, it matters little what course he has taken so long as he knows how to work. It is not the knowledge gained in college that makes the young graduate successful, but rather the training he gained in securing that knowledge. The college graduate who has brushed up against actual business during his course by managing one of the college papers or athletic teams or by earning his expenses in some business venture is usually a great deal more valuable than the man who has done none of these things but has taken courses in administration and finance.

Commercial clubs, such as exist at the University of Wisconsin and a number of other institutions, are very helpful and should be found in every college and university. These clubs have as members all seniors who are planning to enter business. Meetings are held every two

weeks during the year, and at them addresses on various practical topics are given by well-known business men. A list of subjects by one of these clubs included "advertising," "the value of card systems," "hiring men," "working up export trade," etc. It seems to me that much more practical benefit can be derived through a general survey of subjects like this than from mastering the intricacies of a course in railroad accounting.


The best training for commercial careers seems to be that gained from a general A.B. or B.S. course, with special attention given during the last year to banking, transportation, money and credit, business law, corporation accounting, etc. It is a serious question whether any young man who plans to enter business can afford to extend the time spent in preparation beyond the usual four-year course. If, however, a man is not too old and so situated that he can, for a few months, put off beginning to earn a living, I think the courses offered by the Wharton School at the University of Pennsylvania, the Tuck School at Dartmouth, and other similar institutions, are extremely valuable. These institutions have been in existence hardly long enough to prove definitely their value in helping prepare a man for business, but judging from the success of several young men who have been graduated from them and whose careers I have had an opportunity to watch, they are of great benefit. It happens that nearly all of the men I have in mind have supplemented their courses in the theory of business with more or less general knowledge of actual practice which they have picked up during vacation or before entering college, and I believe that the value of such experience cannot be overlooked.

If handled rightly, no class of men are more easily inspired with enthusiasm and loyalty than young college

graduates. They like to know all that they can about the business and to feel that they are part of it, even if they are drawing only small salaries. The encouragement which they need and should have does not necessarily take the form of frequent increases in salary. There are one hundred and one ways in which their spirits may be kept at the right pitch without continually increasing the salary expense, but when they do merit a raise they should get it without delay, unless you want to run the risk of losing good men whose training has cost you a lot of money just as they are becoming worth something.

THE CONTRACTOR'S ORGANIZATION¹

By KENDALL BANNING

OU may tear down my buildings," said a leader of American industry, "disable my machinery, and destroy my books, and I can replace them. But destroy my organization and you destroy the structure of a lifetime."

In this spirit the foremost business houses of this country have been reared. Their growth is not credited to machinery alone or method alone or men alone. Their growth has been due to their organization — organizations which in some cases found embodiment in the executive heads who utilized these factors in commercial life to best advantage — organizations which saw their needs and concentrated forces at definite points, at definite periods which, by their coincidence, involved the greatest economy.

To organize an industrial enterprise to meet uniform conditions when demands may be anticipated requires merely a knowledge of the present situation and past records. To organize an enterprise to meet conditions that may arise at any hour without warning, and to meet new problems at each turn, requires systems peculiar to themselves.

The story of the building of a whole town out of a wilderness in three months affords an illustration of the application of perfect organization to creative work and stands as an example of American industrial achievement.

In early spring a contract was undertaken for the build-

¹ By permission of *System*. Copyright, 1906.

ing of an entire paper manufacturing town in the heart of a Maine forest. This site was chosen by the paper company because at this point land was cheap, water power could be secured from a river, and the forests could furnish raw material. These natural forces had to be "harnessed," and harnessed quickly. The greatest economy to be effected was that of speed in converting an unproductive area into a money-making one. The paper company demanded certain specific requirements for turning out its products, and set specified dates. On these dates the builders' organization undertook to fulfill its agreement.

The contract was large. It provided for the entire industrial community — factories, mills, machine shops, freight and passenger terminals, stores, homes, a railroad, and a two thousand foot dam of concrete. Its costs ran well into the seven figure mark. Within eight months a territory was to be converted from a wild forest into a productive industrial community of three thousand inhabitants in line for listment on the government maps. In brief, an entire town was to be "made to order" with a speed that before the day of business organization and specialized systems would have been impossible.

The day the contract was signed the machinery of the builders' organization was set in motion. Like a huge magic hand the force of this organization applied itself to the building of this town, to be lifted only by its completion. Within a total period of eight months this town was to be conceived, planned, built, and delivered. The work was begun in April; it was completed in December, and the city was delivered to the owners.

The first step was the appointment of a general superintendent to direct the work. Under his supervision professional and unskilled labor was hired from a card list of former and prospective list of employees kept by the

permanent organization, for just such cases. The various factors in the building of the town were organized into departments. Executive heads were appointed, and the routes of authority were indicated in graphic form on an organization chart to apply to this particular job. In this way obstruction in the routine work could be located and rectified. The two executives directly under the general superintendent were the carpenter and mason superintendents. Hence, to these two superintendents were distributed the various phases of the work to be undertaken, and those phases which were connected with both were grouped as is shown. To every department a number was assigned and a head was appointed.

At the disposal of the general superintendents were placed the resources of the central organizations, including the purchasing, commissary, and other departments.

The second step was to send the advance guard to the site of the proposed town. The site was covered with a nine-foot depth of snow. Upon this the advance guard erected bunk-houses for twenty-five men to follow — houses that rested on solid ground only with the spring thaws. These men built accommodations for a hundred, and the hundred for a thousand. Each group reached the spot at just the time to involve the least loss. Each man arrived to find his quarters, tools, and work ready for instant use.

A list of tools was made up by the construction department. Supplies were ordered by the "quotation department" from dealers whose names and goods were kept in a list maintained for this purpose. Material was bought from those firms whose products, facilities, and location involved the greatest economy to the buyer to keep supplies ahead of the demand. A four-mile railroad was built through the forest to connect with the trunk line.



After the painting by L. DETTMANN

SHIPBUILDING

Daily reports from the superintendent, made out in accordance with the "field system's" instructions, covered every phase of the work and kept the central organization in close touch with the job. By this means the various forces at work were recorded, shifted, and regulated to meet the ever-changing conditions, and delay caused by lack of men or supplies was eliminated, or responsibility for it placed — in itself a powerful incentive to errorless work, and errorless work means speed.

In this manner the three factors in building operations — men, material, and machinery — were concentrated on the scene of action. To avoid accident, a duplicate-part system was maintained throughout to cover all three factors — a duplicate force of men, supply of material, set of machinery was ready at hand for any emergency.

When the right factors were placed at the right point at the right time, the "job" was begun.

Brick walls were erected at the rate of a story a day by putting men at work on both sides at once. Adjustable scaffolds and platforms for holding mortar and brick, at the height of a man's waist, were raised every few moments to keep pace with the progress on the walls — a scheme which eliminates unnecessary bending and lifting, and which saves the energy required for a bricklayer to raise one brick two miles a day. Runways for wagons were built from the road up to the third floor, thus allowing the supplies to be transferred from the cars to the walls with only one handling. Definite lines of promotion were established. The bricklayer on the lead that hauls in the line was known as the "boss of the line," who was responsible for all levels and heights. Next to him was the man on the "ting," or middle of the wall, and under him the man at the "tail" of the line. By such a system each

man assumed responsibility in the absence of his superior, and delays for lack of authority — a fruitful source of waste — were avoided. The finished material was placed in position by the force of gravity. Narrow-gauge railways ran along structures for the purpose of transferring supplies quickly.

Thus every economy of time was utilized. Every day saved meant a value of thousands of dollars. On the first of October the roofs were on the buildings as agreed. In December the job was done.

It was not able men or good material or special machinery that accomplished this achievement. It was organization — an organization that utilized to their utmost the advantages at its disposal, an organization which devoted its united effort to one purpose — and attained it. That purpose was speed.

The conditions which an engineering firm must face are perhaps more variable than those of any other business enterprise. Upon the number of “jobs” in course of construction is dependent the number of men employed. One week this number may be greater than that of another week, as one is greater than one hundred. Upon the same conditions is dependent the amount of machinery and material required. New problems must usually be faced on each job and must be solved in new ways. To apply to such a firm an organization that is so elastic as to include all jobs, no matter how widely separated or how divergent the conditions surrounding them, yet so simple as to eliminate red tape and so strong as to avoid divided responsibility, has been considered impractical. That a perfected duplicate-part system could be applied only when conditions could be controlled has been accepted as axiomatic. This organization has been planned to meet such conditions.

Imagine a circle which represents the first executive authority.

The lines of responsibility connected to this executive circle fall under two classifications. One comes within a large circle bounded by the "contract line" and represents the permanent forces whose employment is necessary to the maintenance of the whole. The other comes without the contract lines and represents the contracts in operation at the present time, hence is constantly changing as old contracts are completed and as new "jobs" are undertaken. But, however the number or size of these contracts may vary, the organization within the large contract line remains intact.

Within this permanent-organization circle, and connected directly to it, imagine another circle representing the second executive authority. Connected to this, in a corresponding manner, is a third executive circle. To each of these three executives are relegated certain specific responsibilities.

Without the contract line, but attached to it, imagine smaller circles. Each circle represents a contract in operation. Each contract is designated by a letter and a figure, by which reference is made to it. The letters represent the office by which the contract was secured. The figure represents the number of the order secured by that office. These data appear in each of the contract circles, together with the location of the job and the name of the engineer or architect in charge.

All of these contract circles are attached to the contract line. The contract line is connected to the first executive to the "daily construction reports," and to the "daily accounting reports" departments. They are connected to the first because the first executive has final authority in the organization in detail and as a whole. They are con-

nected with the second and third because the routine of the system requires itemized daily reports on each job. Information in these letters is referred promptly to the accounting department and to both the purchasing and the construction departments. In this way the need for supplies is anticipated, work already done is recorded, and a close supervision is kept on the costs. The other features within the permanent-organization circle are self-explanatory.

As each new contract is secured, the forces put to work on it are organized to meet the special requirements and an organization chart is drawn up. Each of these suborganizations has an executive head. This executive head is responsible to the permanent organization. Thus, regardless of the many widely divergent suborganizations, the relations of the heads of each to the main organization are identical and each is subject to the same field and office systems which are the supporting systems of the organization. Herein lies the keynote of the entire structure.

The "field system" and "office system" are sets of specific rules and instructions that apply to all jobs at all times. Each set of rules is embodied in book form and a numbered and registered copy is given to each executive. These rules cover all conditions that are not covered by special orders. Compliance with the rules of the field or office systems, or with special orders, is imperative at all times.

"This wheel represents you," said the executive head of this organization, Mr. Gilbreth, to one of his engineers in attendance at one of the regular "organization meetings," as he pointed to a screw machine stretched out on the floor. "This bar represents you; this crank you; this lock you. Remove a single piece and the machine is use-

less. So with our organization. Each of you is responsible for specific work. Each of you is dependent upon the other. We are working for and with one another in the interests of our organization. The purpose of the organization is speed. Time means money. Get your work *done*, and do it *now*."

And in these instructions he expressed the real purpose of real systems that support real organizations.

ADVERTISING ¹

By M. M. GILLAM



To advertise a business effectively is one of the most important elements in successfully conducting it. The competitive enterprise that attempts to do without advertising has no chance whatever to attain great success. It is all very well to "let one tell another," but that sort of thing, while the very best of advertising, can be inspired only by deserving, and made enthusiastic by large activities.

There is a tendency on the part of so-called "advertising experts" to throw a mantle of mystery over the art and practice of advertising, and to claim that only a transcendent genius can properly present the attractions of a business to the public. To my mind this is simply rubbish.

The very heart and soul of a good advertisement is to hold up such a phase of the proposition as will present a feature likely to appeal to the reader's interest or cupidity. There must be sound business sense on the part of the writer or he can not do it. He must have the capacity to be a good talking salesman or he can not do it. Mere words prettily strung together, grammatical, rhythmic, sententious, or what not, are not enough. Many years ago the late Eben D. Jordan of Boston said, "You must love your goods or you can't sell them." There is a world of business truth in the thought.

The salesman who believes in his goods, who "loves"

¹ From "Careers for the Coming Men." Copyright by the Saalfield Publishing Co., 1904.

them, can surely sell them. He would n't love them except for their fitness, timeliness, beauty, or value. If he is enthusiastic for them, he can make a possible customer enthusiastic for them. Nothing is more contagious than enthusiasm. Without study, without special thought, he will say just the right things to stir the interest of the visitor, if that visitor is at all inclined to such a purchase.

This is one of the biggest secrets of the advertising business.

There must be belief and enthusiasm behind the advertisement if it is to do the best possible work. There must be the feature of individual effort behind it. Any advertisement, no matter how widely circulated, is, in effect, no more than a talk to one person. There may be a million readers, but to all intents and purposes each one is singly and alone absorbing what the advertiser says. The words may be joggly; the grammar may limp, but if there are earnestness and enthusiasm in the work, based on knowledge, the advertisement will be effective. Of course, if the language is crisp and snappy, if there are quaint and striking expressions, pat and pointed, so much the better. Those things help, but they are not fundamental.

So much for the writing of an advertisement — the part that to the tyro seems about all there is of it.

As to whether an advertisement should be wordy or not depends. If the desire is to explain as well as to attract, there must be some talk. Ordinarily explanations are necessary — a shout, as it were, to call attention, then an argument or a statement. If a new proposition is being presented, or new phases of an old one, there should be some elaboration. How much? There is, there can be, no hard and fast rule. The safest plan is to err on the side of saying too little rather than too much. Better leave the grain of wheat a little too bare than bury it in a

mass of chaff. It is always safe to credit the reader with a fair share of comprehension.

The vital thing is to have such a presentation as will arrest attention, and such a sentence introductory as will pin it, if but for a moment. If the story is one that the reader is interested in, he will read the rest of it, even if the type be small and the space crowded.

For instance, the word "Rheumatism," in bold capital letters at the head of a story in solid agate will be sure to command the attention of any rheumatic sufferer who chances to see it, and the more acutely he feels the twinges of his ailment the more carefully he will read it.

But a very large percentage of all the advertising that is done is meant to appeal to the general reader rather than to a special class. That is why brief statements, in easily read type, with strong, eye-catching head words, are so necessary for the best results.

Contrast is a feature that is often made of great value in the presentation of an advertisement. Indeed, unless there is some degree of contrast with surrounding matter, the strikingness of the advertisement is largely lost. In the seventies John Wanamaker adopted old-style pica as the type for his announcements, using this for a plain, straight-forward daily talk on store features of interest. There were no display lines, no eye-catching features; the matter was set in single column, and without leads.

Probably no more effective style of advertising was ever devised. The matter could be read at a glance; it was conspicuous by contrast with either the usual reading matter of the paper or with the usual display advertising. It was made still more effective by always appearing in the same part of the paper. This advertising wrought something of a revolution in methods for presenting the news of stores. It was imitated and copied from ocean

to ocean. In time there was very little distinctiveness to old-style pica put up in single column. It could be seen in the advertising of perhaps a dozen houses in the same paper. Then came a general movement away from that type, and now it is very exceptional to see any announcement in plain old-style pica.

The rise and fall of this type in advertising favor illustrate the importance of novelty and contrast in such publicity. That particular face of type is just as good now as it ever was, just as easy to read, just as conspicuous in contrast with the body type of the paper, but it is no longer novel in an advertising make-up, and so it has lost its greatest claim to advertising interest.

Illustration is another feature that has been very helpful in giving an advertisement striking prominence. If the picture has merit enough, either artistic or descriptive, to arrest attention, it is a valuable addition to the story. In many instances the merest bit of a drawing will convey a clearer idea than many times its space in descriptive wording could. In department-store advertising there are multitudes of instances when a drawing, of a size no greater than clearness demands, will tell the entire story (except price) with a completeness unapproached by any other method. In other phases of department-store publicity work the only mission of a picture is to catch the eye and please the reader, either by its beauty, its quaintness, or its airy lightness.

As daily newspapers are now printed, illustrations are much more satisfactory if made from outline drawings, the coarseness of the paper surface and the rapidity of the work, as a rule, making half-tone pictures very unsatisfactory.

But the wide-awake advertiser will not get his inspiration by looking backward. He will care for precedents

no more than to learn whatever lessons they may teach, without any willingness to follow them slavishly. The standard of advertising expression and treatment has been raised very much in the last fifteen or twenty years. When a good advertising model appears, its features are public property. If there are happy expressions or pat verbal illustrations, the merchant reader in cities even thousands of miles away can catch them up, work them into his own announcements, and so wing them along in a persistent flight through the advertising literature of the day.

That is precisely what happened in the case of the Wanamaker advertising during more than half a score of years. Copies of the Philadelphia papers containing it were taken by mercantile houses all over the country. The matter was reproduced and sent to thousands of subscribers by syndicate managers. One monthly publication was established mainly to reproduce this advertising in facsimile. Terms, sentences, characterizations of goods, reasons, excuses, every phase of treatment of special or general cases where crisp or unusual expression or description were employed were snapped up and passed along, until they have become a recognized part of advertising, very much as certain forms of expression are a part of the legal formula everywhere.

The same principle operates with other advertising, but it is mainly in forms of display, in type selections, or in illustrations that recent advertisements have been suggestive of improvements and imitation. As far as verbal expression is concerned, there has been no notable well-spring of inspiration since the old-style pica days of the Wanamaker advertising.

As to the opportunities afforded by advertising for a career, I am enthusiastic. I know of no calling so easily

within the reach of a bright person, male or female, that offers equal promise of money return. There must be fish or you can not catch them. There must be a field to sow, or there can be no harvest. A glance at conditions will prove that there is a great and multiplying opportunity for the competent advertiser.

I estimate that fully \$4,000,000 is paid out annually in New York and Brooklyn for department and specialty store advertising. Philadelphia and Chicago put out at least \$4,000,000; Boston, Baltimore, St. Louis, Cincinnati, Washington, Cleveland, and New Orleans expend a total of not less than \$5,000,000. It is probable that the other cities of this country with stores large enough to warrant the employment of advertising writers or managers put out as much and probably more. All of this counts to upward of \$18,000,000 paid out for this class of advertising alone in the United States in one year.

Patent medicines, food products, drinks, and tobacco in various forms are articles on which a great amount of advertising money is annually expended. One concern has made an advertising appropriation of not less than \$750,000 for the current year. Several others rise to \$500,000 each, and the number that expend anywhere from \$150,000 to \$350,000 is surprisingly large. Then there is a wilderness of others, many experimental, some struggling to the front, and others well established, that devote from \$10,000 to \$100,000 a year to advertising. I would not be surprised if more than \$12,000,000 annually was put out in this country on those lines.

Another class of advertising that at times occupies large space in the papers, and is always in evidence to some degree, is that devoted to financial propositions — mergers, reorganizations, bond issues, mining ventures, oil properties, and the like. It is the most impulsive and

erratic advertising of all, and its amount is very difficult to estimate, even approximately, but my guess would be that it equals the total of the preceding group; or, say, \$12,000,000.

Here we have a grand total of more than \$42,000,000 paid each year for advertising, practically all of which is prepared by hired talent. My belief is that more than \$50,000,000 worth of advertising in the United States is put out every year by individuals or concerns, for the preparation or placing of which salaries are paid.

This amount will increase rather than decrease as the years go on. There will steadily be more advertising and better advertising. And there seems to be little prospect that the ranks of the strictly first-class advertisers will ever be overcrowded.

I have been in the very storm center of department-store advertising for more than eighteen years. I have seen the entire development of modern methods in such publicity, and to-day if I were asked to recommend a man for a leading store I should not know where to turn to find a competent man out of a job. I do not know of ten advertising managers who are strictly first class. Yet there are salaries of from \$10,000 to \$15,000 or more at the command of such people.

The writing facility is only one of the equipments a department-store advertising manager should possess. He must have the mercantile instinct or he can never be a great advertiser. It is not necessary for him to know merchandise familiarly, but he must have such a commanding sense of conditions that he will instinctively realize what presentation of the case will be wise for the seller and attractive to the buyer. Such a man has the capacity to be at the head of a big business. One without that capacity could not rise to the necessary level as

an advertiser. In the few instances where men of that grade are at the head of advertising departments, they are exceedingly significant factors in the outfit.

Coming down to the mass of advertisement writers, it will be found that a certain command of language and a superficial knowledge of type faces are their principal equipment. For such people it is not at all difficult to make a fair showing as advertisers. Stock phrases abound in the advertising of the day, and with eyes open they can see good models in all branches of the work. They can command from \$15 and \$25 to \$50, \$75, or even \$100 a week — according to the size of the house and the advertisers' skill in adopting and adapting.

Several years ago an advertiser of country-wide fame said to me, "When I was preparing to go into the advertising business I took a copy of a Philadelphia paper every day and cut from it your Wanamaker work. This I clipped and pasted in scrapbooks according to the general subject. In the course of four years I gathered matter in this way to make half a dozen fat scrapbooks. Then, when I went into business and got an order for a series of ads, on clothing or boots and shoes or carpets or jewelry or dress goods, or any one of sixty or seventy titles, I took down a volume of Gillam and dictated to a stenographer the matter I required." Lots of business men do it.

What is most needed in the advertising business to-day is men or women of originality of method and expression, and with the trading instinct as well — minds that are impatient of precedent, that see nothing attractive in moss-grown methods, that can grasp conditions as they exist and say the right thing instinctively. The late Charles B. Rouss of New York afforded an instance of the advertising strength of earnestness, even although tied to

ragged, peculiar, and ungrammatical language. His advertising was simply a setting forth of his business talk — odd, quaint, jerky, but stuffed full of hard common sense. His business methods and his business talk went hand in hand to great success.

I know of no training better for a young man who wishes to get a clear view of business conditions and possibilities than would come from experience as an advertiser.

There are great opportunities for the ambitious, wide-awake young man or young woman. To any such who feel that they have a call to the advertising business, and who do not know where or how to begin, I would say: "Take any advertising in your vicinity that you think you can improve. Write the improved version. Write other advertisements that will hold up new phases of the business, or hold the familiar ones up in a better way. Study the enterprise. Try to know why one method of presentation is better than another, and why this or that particular idea should be put forward. Then go to the management. You will be sure of a hearing, at least, and if your ideas are valuable, rest assured that the chances are they will be appreciated. In any case, don't be discouraged. Keep pressing against the crust, and sooner or later you will surely break through — upward."

THE SELLING PROCESS¹

By C. L. CHAMBERLIN



WHEN a young man has decided to enter the commercial field as a traveling salesman there are many things for him to learn before he can hope to attain any pronounced success. He may have been a retail salesman, he may have made house-to-house canvasses in the old-time way, but, before he can hope to be a success from the point of view of his house as well as of himself, there are many things which he must have studied carefully and seriously.

The first thing, perhaps, is a personal study, a study of his own characteristics, his lines of strength as well as his limitations. Not every one is endowed with the faculties which go to make up a successful salesman on the road. He may be pleasant, a good talker in a social way, may possess a vast fund of general knowledge and a good education in the schools, and yet be a failure as a traveling salesman.

The best preparation which the young man can possess is a good, sound physique and a pleasant disposition. He must be able to take a rebuff without taking offense. An over-sensitive man never yet made a good salesman. He must possess plenty of determination to hang on in spite of opposition. Of course a good education is a necessity these days as it is to one engaged in any calling or occupation in order that one may use good English in conversation with those who are able to judge along this line.

¹ From "The Book-Keeper." Copyright, 1910, by the Business Man's Publishing Company, Detroit.

Besides these personal characteristics, natural and acquired, one of the best preparations is previous experience in some line of work in which he has "rubbed up against the world and many classes of its people." Work in a retail store is helpful. So is employment in or about a railroad station or on the road itself. The messenger boy who delivers messages to all kinds of people, even the door boy of some lawyer or physician who must meet and hold the attention of the many callers, all have had experience which is sure to prove helpful to the future salesman.

The reason for this is evident. The salesman must gain an experience with the world which removes him as far as possible from a condition of diffidence or self-consciousness. These positions all aid him in gaining this independence of thought and feeling before he begins the actual practice of the business, and he is thus left free to devote his entire time and attention to the affairs of salesmanship. Unless a young man possesses all these qualities, natural or acquired, or has every reason to believe that the missing ones will shortly appear as the result of an early experience in the business, he would better not attempt the work of a traveling salesman.

The next thing for the young man is to acquire a knowledge of the goods he is to sell. This preparation must be far more thorough and far-reaching than the simple study of the firm's printed descriptive matter or he will be unable to tell his inquiring customers more than they already know.

First of all, he must know the general purposes of the goods. He may begin the acquisition of this knowledge from the firm's printed matter, provided he be entirely ignorant of the subject. Having learned this much, he should, if possible, visit the factory in which the goods are made and, for himself, see every part in process of

construction. He should ask questions of the various foremen in charge regarding any process he does not understand. He should not come away until he can describe every step in the manufacture of the goods. This knowledge will many a time enable him to answer a question which the ordinary, less thoroughly prepared salesman must guess at or pass by unanswered.

The young salesman should next make a similar study (though less exhaustive as regards details) of the leading goods made by competing firms. By obtaining their printed matter he can learn the claims put forward for the goods. After making due allowance for the so-called "trade talk" this description will, or should, indicate rather closely what may be expected from these rival lines. No firm of standing will make claims which their goods cannot substantiate, at least to a certain degree, hence the printed matter will in a general way show what the articles will do.

From his knowledge of the manufacture of such goods obtained in the factory of his house, the salesman can after a few moments' examination of the competing articles determine both their weak and strong points. He should make comparisons with his own goods until he knows exactly the relationship existing between the various lines on the market.

As already stated, a salesman may possess the requisite preparation and yet not be a success. He must feel what it means to represent his house to the retail trade. In this representation he will either do his house a service or an injury. If he makes the right impression and places a line of his employer's goods by talking on their real merits, he has performed a service for both the employer and the retailer. On the other hand, if he has met with objections and criticisms which he was unable to answer satisfactorily

and was obliged to leave without taking an order, he has left the impression behind him that even the salesmen of this house do not believe in its goods and has done what may be a lasting injury to the business of his employer.

The salesman must feel that he has a duty to perform, that he owes it to the house employing him, and that he assumed that duty when he accepted his position. He must represent the goods of his employer in a way that will do them full justice. Less than this is an injury to his house, and he can not intentionally do less and conscientiously draw his salary. He should feel that it is his duty to make all needful preparation for his work in order that he may do justice to the goods he sells.

Closely connected with this subject is the possession of what we may call the "selling spirit." This may be considered under several headings, some of which have already been mentioned indirectly. Two of the more important divisions may be called "confidence in yourself" and "confidence in the goods."

The first, as has already been hinted at, comes largely through contact with the world and is constantly increasing during the life of a successful salesman, although it is one of the most difficult qualities to preserve in the face of apparent failure.

An illustration may be drawn from experience in a manner of selling which has almost become a thing of the past, the house-to-house canvass for the sale of goods. A certain general manager who was instructing the writer on the best manner of engaging people for the house-to-house canvas once said: "What we want is the young man or young woman who can turn away from the twelfth door after the twelfth successive failure with the same assurance and determination to win out. Such a person will make good in any kind of business, and we can afford to hire him

and wait while he learns the business, for the goods he will eventually sell will more than repay us."

Many a time the writer had reason to recall these words when he had continually to encourage and inspire his agents in order to keep them working. They were too thoroughly self-respecting to wish to take money they did not earn, and they were willing to keep "hammering away," being always on the alert for improvement in the selling plan, and looking to the future for results.

Confidence in the goods comes best with increased knowledge of their qualities. In addition, the young salesman must learn not to be affected by anything a rival salesman or a retailer devoted to a rival house may say of him or his goods. He must know his goods, their powers and capabilities, so well that he learns to consider all such remarks as the result of malice or ignorance, and that they are best overcome by studied indifference or by a campaign of education in the goods themselves. He must not allow his own enthusiasm to run down, since he can never arouse this feeling in others when he does not possess it himself.

Whenever the salesman feels that he is weakening in his enthusiasm and ability to put up a good selling talk for his goods, he should get away from the route long enough to have a good talk with his manager or, better yet, make a visit to the house at headquarters, see the goods in process of manufacture, know by actual personal investigation that his trade talk is the plain truth, and that his goods and his house are worthy of all the good things he may say of them. Such visits, coupled with a good talk with the manager, who has been through the grind and knows just what is needed, will revive the young salesman as nothing else can, and will send him back to the work with renewed energy and determination to succeed.

Enthusiasm is a quality that can hardly be rated too

highly. Clean, honest enthusiasm will often succeed when a dry, uninterested delivering of unimpeachable arguments for the goods may be time wasted.

Be in earnest. Show that you mean what you say. Learn to be enthusiastic in manner as well as in words. Confidence in the goods will do much to bring about this enthusiastic manner, which, when it has been properly developed, becomes one of the most valuable assets a salesman may possess.

Closely connected with enthusiasm is a love for the work. There should be a real, genuine love for the game of selling, or the show of enthusiasm will soon manifest itself as false and do more harm than good.

The successful salesman learns to love the work and feel a genuine delight when talking up the valuable points of a really meritorious article; and this feeling soon becomes far more than the ordinary, natural impulse to be delighted when one has outdistanced all competitors and has sold a large bill of goods. Doubtless this feeling is felt by all to a certain degree, but in time there comes a higher, nobler feeling of satisfaction in the performance of one's duty in a manner that shall benefit all concerned.

THE SALESMAN¹

By NATHANIEL C. FOWLER, JR.



HE salesman was born at the birth of trade, and ever since their dual creation he has been in increasing evidence.

Selling has become an art. Its practice is universal. It is one of the two fundamental elements of business.

It may be said with absolute truth that there is not a wholesale or a retail or a manufacturing house of any kind without a greater or less number of selling representatives.

The tradesman may know what he wants, and he doubtless is aware that he can not do the maximum of business without the proper goods, and yet for some reason, which has not yet been fully explained, the chances are that he will seldom order these goods by mail, or go after them, but will wait until some traveling salesman has called upon him and solicited his trade.

It would appear to be an unnatural condition of trade that makes it necessary for the buyer to be told what he should buy; but whether it be unnatural or not, it remains a fact.

The selling of practically everything, except a part of that which is sold over the counter, is the direct result of solicitation, or of what is known as drumming; and this occupation of solicitor or drummer is one of the foundation stones of commercialism.

The traveling salesman, or drummer, as he is commonly

¹ From "Starting in Life." Copyright, 1906, Little, Brown & Company.

called, is one who solicits outside of the office or store. He usually earns a higher salary than is paid the counter-man, who handles the trade which comes to his store or office; and while to be successful the latter must possess the abilities of the solicitor, yet it is not necessary that he be so alert and aggressive as the drummer, who goes from place to place for orders.

The real difference between the outside and the inside salesman is this: the outside salesman takes the initiative, while the customer, to some extent, makes the first move when buying goods from the inside salesman.

It has been claimed, and with a sufficient degree of truth to make it almost indisputable, that no man can direct the selling of any commodity unless he has actually sold goods himself. I do not recall a single successful merchant or storekeeper who has not, at some time in his career, actually met his trade face to face and personally sold goods.

Probably seventy-five per cent of the successful merchants and storekeepers began as salesmen, and nearly every prominent wholesaler was at one time a drummer.

It is certainly common sense to assume that few men can successfully direct the movements of others unless they have actually done what their employees are called upon to do. True, a man may be an expert at selling, and not make a good manager of salesmen or a good merchant, for some men's selling ability needs the direction of a broader and greater mind. It is also true that some sales managers have little actual selling capacity, and can not successfully meet a customer.

All, or nearly all, of our merchants and storekeepers entered a mercantile life through office work or through the selling department. They began either as office boys or as store boys, and after one or more years of menial

work, of little value to any one except to themselves, they became clerks or salesmen. Many boys, particularly the bright ones, jump directly from this boyship into subordinate salesmanship.

The average boy, working in an office or in a store, receives anywhere from two to six dollars a week, four dollars being a fair average.

The young salesman, even at the start, seldom receives less than eight dollars a week, and occasionally he is paid as much as ten or twelve dollars a week. From the twelve-dollar mark his advance depends upon his proven ability and the conditions under which he is working.

Ability without the assistance of an encouraging environment will hinder the boy's advancement sometimes; however, not so much as will less ability with a good opportunity. It is therefore extremely important that the boy should start right; that is to say, that he should connect himself with some business which he will not outgrow.

For the first few years the boy will be learning, and really accomplishing very little. This is his apprenticeship, and during these initial years he can not hope to receive more than a few dollars a week. When he becomes a salesman, then he begins to rise, and if he has the right kind of stuff in him, and the conditions are right, his advance may be rapid.

The rank and file of country store salesmen, that is, inside men, do not receive, on the average, more than ten or twelve dollars a week, even after they have become thoroughly experienced; and the maximum pay has probably never exceeded twenty-five dollars a week. Department-store salesmen in large cities draw salaries of from eight to thirty dollars a week, the average paid to a good salesman of experience being from eighteen to twenty dollars. The average salesman in small city stores, and

even in those located in large cities, receives anywhere from eight to twenty dollars a week, comparatively few drawing the latter salary.

There are two reasons why the inside salesman can not expect to draw more than a moderate salary: first, the customer comes to him, and he does not have to go after the customer; and secondly, fully ninety per cent of inside sellers are women, who are willing to do work for much less than the amounts paid to men. The merchant, in business for gain and not for philanthropy, buys his salesmen in the market and pays market prices, although to the credit of business it must be said that there are a few merchants who invariably pay more than market rates, and in return maintain an unusually high grade of business, which is permanent in character.

The demand for bargains and for cheap goods of every class is a mighty factor in the maintenance of low salaries. The customer, more than the storekeeper, controls the situation. As long as the majority of our shoppers are demanding bargains and goods at cut prices, it is evident that a grade of salesmanship suggestive of high salaries can not always be maintained.

Resident salesmen of experience, in wholesale houses, command salaries as high as three thousand dollars a year, and a few enjoy incomes of ten thousand dollars a year; but the average annual salary paid to the first-class resident salesman is probably not more than twelve hundred dollars.

First-class traveling salesmen seldom receive less than two thousand dollars a year. Those of long experience, and of exceptional proficiency, may enjoy annual incomes of as much as five thousand dollars. Comparatively few reach this latter figure, and a very few exceed it, although there are now "on the road" a number of traveling sales-



CROSSING THE GREAT LAKES

men drawing salaries as high as ten thousand dollars a year, and probably there are some whose annual incomes are not far from double this amount; but these men are great exceptions.

Unless the traveling salesman sells upon commission, all of his necessary traveling expenses are paid by the firm for which he sells.

The salesman on commission is really in business for himself, and his income almost always exceeds what he would receive on salary. Some salesmen have a dual arrangement with their employers, by which they sell upon both salary and commission; that is to say, they are guaranteed a certain amount every year, whether or not their commissions reach it. But it is obvious that no concern will continue to pay a stated sum if the amounts that it would pay in commissions long continued to be below such sum.

The store salesman is confined to narrower limits, and unless he possesses aggressive or other exceptional ability, he stands little chance of rising above the position of head of his department. The traveling salesman has a much better opportunity for advancement. His work is more difficult, and requires closer attention and greater energy. If he makes a success of it, he is likely to be recognized and to be promoted. If he is particularly successful, and has built up a large clientele, it occasionally happens that he is given an opportunity to enter the firm, or he may form a business partnership with other salesmen of his capacity.

As substantially all merchants and storekeepers were at one time salesmen, we must draw the conclusion that the selling department of business offers the greatest opportunities for advancement to the boy who wishes to enter a mercantile business life.

I have said that the inside salesman does not find so good an opportunity for advancement as does the drummer. While this is true, and while I would advise the boy to go "on the road" in preference to remaining inside, I do not wish to give the impression that there is no opportunity behind the counter. There are many men of strong selling ability who do not seem to possess the aggressiveness necessary for outside drumming. They are natural salesmen, know how to impress the buyer, and understand the goods, but, for some reason which they themselves can not explain, they lack the ability to get out into the open to fight trade face to face. These men are not adapted to outside selling. Their place is inside. Their ability is sure of recognition, although they may have to wait longer for it. Sooner or later, unless conditions are very much against them, they will be promoted to responsible positions, and occasionally they may combine with others in establishing a business of their own.

The first-class inside salesman frequently becomes a buyer, and thus he may or may not remain a salesman.

The traveling salesman is without a home; he lives on trains and in sleepers and at hotels. He is obliged to put up with every kind of accommodation, and is exposed to sickness and to accident. Every form of temptation is presented. But there is temptation everywhere, and the boy of well-formed character, who is conscientious and faithful, can safely take to the road. Traveling may facilitate the distribution of the bad, but the bad is sure to come out, whether one remains at home or travels. The boy of loose habits, who has little stability, who is easily influenced, and who can not be trusted, will immediately yield to temptation, and will sacrifice his morals and undermine his health. But if this boy is so weak in character that the road will ruin him, is it not logical to

assume that he might just as well be ruined rapidly on the road as to stay at home and undergo a similar but slower process?

While it is true that many salesmen do not rise above the lower grade of ordinary success, the same is also true of almost any other trade, business, or profession; for most of us are ordinary mortals, and few of us can hope to become extraordinary. Many a boy longs to become a salesman, in order that he may travel and see the world. He looks forward to the excitement and the novelty of continuous journeying. All this wears off, and very quickly; and the necessity of continually visiting the same towns soon dispels the novelty, and the boy finds that the weariness of the road is far more disagreeable than the monotony of the home store.

Selling on the road is hard work, traveling is tiresome, and a continuous hotel life is not conducive to pleasure.

At the very start, the boy, in deciding to become a drummer, should not allow himself to be governed by the thought of the pleasures of travel, or by any thought save that he has his place to make in the world, and that this furnishes a means of making it. If he goes on the road, he should go simply because the road is his road to success. The road to him should be a means to an end, something disagreeable, something to be endured, but something which he must not allow to master him.

The salesman should be impressed with this one great fact, — that the amount of remuneration he receives during the first few years, whether indoors or on the road, is of little consequence so long as it is sufficient for his actual needs. What the position will lead to is of more consequence.

Small pay with good opportunity is far better for the boy than more pay with less opportunity. The boy dur-

ing the first years of his salesmanship is a student of business. No matter how hard his work is, and no matter how little he may be paid, he is receiving more than he gives.

A word about the storekeeping salesman, and by storekeeping salesman I mean the salesman in the country store. While his salary is likely to be less than that of the city salesman, and while the top is not so high, yet I verily believe that the average boy stands a better opportunity for success in life in the country store than he does in the city store. Only our brightest boys will reach the tiptop, and under any circumstances there is only room for a certain number of boys at the top, and the great majority must be contented to remain in the lower positions.

The country-store salesman, even though he may work every night, is near his home, enjoys a local atmosphere, has a chance to become known, and has the opportunity of amounting to something. Certainly, his worry and expenses are very much less.

I am aware that the country store does not offer very great opportunities for monied success, — neither does the city store. Competition is greater to-day than ever before, and greatly lessens the chance of advance of other than the most proficient. The probability is that the average salesman, whether in the country or in the city, will not rise very high in his calling, nor will the member of any other business or profession rise. There must always be more soldiers than officers. I am simply comparing the opportunities offered the country-store salesman with those enjoyed by the city-store salesman. I believe that if one is satisfied with an ordinary degree of financial success, and cares more about himself, his family, his neighbors, and his citizenship than he does about his

actual money income, then he is far better off in the country than in the city.

Not one inside salesman in a dozen is a good salesman, and most inside salesmen possess little real selling ability; consequently it must be assumed that one can earn a living behind the counter even if he can not develop more than the rudiments of salesmanship.

The ordinary salesman seldom shows any marked characteristics while a boy. He is simply an ordinary boy, traveling along as ordinary boys do, and he will go in the direction that his parents point out or his playmates happen to suggest.

But the first-class salesman develops from the boy who has himself well in hand, who understands men and things, and who is a leader of boys, who generally has his own way, not by force but by persuasion, and who governs his playmates simply because he knows how to handle them.

Such a boy knows how to buy his own clothes, and does it.

Even if the parents object to his buying his own clothes and attending to his own affairs, yet in as far as he does do business as a boy he may prove to his parents that he is really competent to do what they would not allow him to do. He is a trader, and knows how to place a value upon things, and above all, knows how to impress others with their value.

While a good talker does not necessarily mean a good salesman, the good salesman is almost always a good talker. Either he talks much and well, or else he talks less and very well. There are some salesmen who have little to say, and who seem to possess the ability of saying much in little. But nearly all successful salesmen are fluent talkers; in other words, they know how to represent

that which they have to sell. They know how to present the good points of their goods, so that the buyer will want to buy; and, further, they possess the power of persuasion, — that power which enables them to make the buyer feel as they feel, and want to do as they want him to do. This is not mesmeric power or anything supernatural. It is simply a natural ability, born of nature and developed by experience.

The successful salesman must understand human nature. He must know how to approach a customer. He must anticipate his customer's wants, and he must be genial, meeting people easily, and be himself easy to approach.

The crabbed boy, the conservative boy, the boy who is not popular with his fellows, is not likely to make a good salesman.

PERSONALITY IN THE WORKING FORCE¹

By GEORGE H. BARBOUR



PERSONALITY in business! Those three words spell, to my mind, the most powerful factor in business to-day. Financial resource, of course, is necessary in the business field; foresight and the ability to grasp opportunities as they arise achieve much. But only when these elements are combined with that peculiar characteristic of the individual which we call personality — that faculty of personal power, personal impression, and personal understanding — do they attain the best and most permanent results.

Personality is the chief factor in building a business, because personal power is the strongest bond between men, and a unified organization in a business establishment is chiefly the result of that same power — personality.

The successful founders of business have been those men who have radiated their personalities through the structures of trade which they built. Their policies and their methods were thus given additional momentum, and their personal magnetism became an instrument unifying employees and attracting customers. This power has caused every employee in such an establishment to give to the business and to his particular work the best there was in him. And the man who can secure that individual effort, general team-work, and loyalty from those he employs is the man who wins; for a great machine is the

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more nearly perfect as its every part, even the smallest wheel or rod, moves in unison and with the least possible friction.

I believe the business man can well devote much of his time to developing personal relations with his employees and the personal quality in those he employs. Many years ago, before I became a manufacturer, I conducted a general store in Connecticut. I made it a point to impress on my clerks that careful attendance and personal treatment must be accorded every visitor to that store, no matter what the amount of a purchase or even if no purchase at all were made. I insisted that a customer who spent ten cents should be given just as close attention and as patient attendance as the customer who spent ten dollars; for very often the ten-cent customer of to-day develops into the buyer of the morrow, whose every bill totals far more than that of the ten-dollar purchaser of the present. Now, the clerk who had that idea innately — who did not need to be told — was the man with personality. He was the employee who could attract customers and hold them.

Every business needs to develop the personality of its men, for that means individualism, originality, growth, and progress. But to develop individualism in the organization demands the injection of the personal touch into the relations between the management and the rank and file. We have always sought to develop the individualism of the worker, from the man who toils in the molding-sand in the foundry to the salesman who disposes of the finished product to the customer. In that way the workman, no matter how small the portion of the general task that may fall to him, is made to feel that he is a factor in the business. Whatever the place he may occupy, he must feel that he is a necessary link in the execution of a certain phase of the work — that his efforts are needed in

keeping in motion that chain of production which runs from the factory to consumers throughout the world.

The management should keep in close personal touch with workmen in all departments. From foundry to shipping room this principle has been followed. Even with almost two thousand workmen in a manufacturing plant it is surprising to find how easily and how pleasantly this personal relationship may be continued, once it is established. The employer may be somewhat amazed to find with what interest he absorbs knowledge of the affairs of the various employees and the eagerness he feels in seeing each man attain the success he desires. And this personal interest, which becomes wholly unselfish and one of the pleasures of business management, is the element which, more than any other one thing, perhaps, brings out loyalty and produces a unified organization.

In our works there has been but one slight disturbance since 1871. That lasted but a few days. Some of the men complained that inspections were too rigid. They were shown that quality always had been the keystone of the business. The discord was quickly adjusted and the most rigid inspection continued. I believe this long period of constant accord has been made possible chiefly through this personal relationship, loyalty of organization, and that consequent mutual knowledge of actual conditions which makes for the fairest of dealing between employer and employee.

This personal power makes men refer to the house or factory with which they are connected as "we." Their individualism is not crushed out. They feel that they are a living, working unit of that great business machine to which they are attached.

This policy also begets long-time service — and permanent employees are a money-saver to a business. I believe

the chief element in continuing long-term periods of service of skilled men has been *personality, recognition of individualism* when it is deserving, because it encourages the man.

Another result of the absorption of this feeling by employees is the many suggestions that come from their brains. They give their best thought to their work. They plan to aid their employer; to extend the scope and power of the business to which they refer as "we." These suggestions, which often yield new mechanical improvements or new clerical methods that save time and expense, should be received with encouraging proof of their acceptability. That, too, will serve still further to stimulate the brain of the worker and inspire his loyalty and effort.

Granted that personality is of much value to the manufacturer in handling the men in his plant, how shall this be made a part of his policy? It must begin at the top. This quality should be one of the prime possessions of the factory superintendent — or whatever title that official may bear who has direct charge of the men, wherever he may be employed. Here this personal power, accompanied by thorough practical knowledge of the work in hand, is a first requisite; for, where thousands of men are employed, all of varying temperament, friction is bound to come now and then. But the superintendent, or the foreman of the department, who treats every man on the personal plane, soon abates any of the little differences that arise; and he exercises this personal power in treating every worker fairly. He keeps every promise made to an employee. Only in this way is individualism nourished and the man in the ranks made to feel that his personality — his personal force and work — is a factor in the roar and rush of the factory.

To this same end any practice of tactless or violent

assertion of authority — the “calling down” of an inferior by a superior in the presence of the former’s working associates — should be abjured, unless a fault or offense really merits the severest censure. That practice of showing authority merely for authority’s sake always hurts rather than helps. It sears the sensitive workman. It acts, too, as a muscle-binder and, with the brake of resentment set, that man’s quality and quantity of work depreciates. It is a sure cause of the “don’t-care” feeling; and nothing is more injurious to a working force than the spread of that disposition. That practice is attended, as a rule, by the crushing out of individualism — the doing away with the personal power of the individual.

I have in mind one man who worked his way upward from the ranks to a superintendency. At one time in his advance he was appointed an inspector. His duties required him to inspect the product of men with whom he had worked side by side at the bench. He had even been “best man” at the marriages of three or four.

These latter felt that, because of this close friendship, he should be lenient in inspection where they were concerned and allow any of their work which was below standard to pass as up to the chalk line. He refused, however. His factory prided itself on the constant quality of its product. He was loyal to that rule of quality. He inspected their work just as rigidly as that of the newcomer who had taken his bench but the week before.

He lost their friendship, but he kept his course. And the time came when they voluntarily assured him that they were convinced he was in the right. Now, that man’s personal power carried him through that experience without creating a storm of trouble. He found himself implanted more strongly than ever in the regard of the men under him. His fairness, his square-deal methods, had

won out. He dealt with all the men on the same personal plane. He upheld individualism. He aided in manufacturing personality. And a better handler of men I never saw.

If personality is a power in dealing with men in the factory, the shop, or the store, it is a superlative power in dealing with the customer at the selling end of the business. The business man, to succeed, must keep in personal touch with his customers. Letters which have the personal quality stamped in their typewritten lines do much. Frequent circulars that are drafted along personal lines and have the personal element carried in the ink form another bond that ties; but best of all is the personal contact between the seller and the consumer.

Many a business man could not execute a more effective stroke of business-getting than by packing his grip, making a tour of the houses of his customers, and announcing at each place he called that "I have come just to shake hands." I have seen ample proof of that. Its value has been demonstrated many times. Our sales manager some time ago made such a trip through a section of the country. Its results were immediate. It toned up business all along the line. It acted as a powerful supplementary influence to the efforts of the salesmen in the field. In one city this official called at the offices of a very prominent and very busy man. The corporation over which this man presides as the executive head had not been one of our constant customers. To the visitor's card the busy executive sent back word that he was so deluged with business affairs that he could not receive a call. The visitor merely said to the clerk:

"Very well. Kindly tell Mr. So-and-so that I do not want to bother him by soliciting orders; I merely came in to shake hands. I shall call again at ten o'clock to-mor-

row morning. If he is not too busy then I should much desire the pleasure of meeting him."

The next morning our sales manager was promptly received. He was met by this corporation head with: "I am very glad to meet you. You displayed such a kindly and gentlemanly disposition yesterday when I was burdened with a mass of affairs that I have looked forward to endeavoring to make full amends to-day for my inability to see you yesterday."

That visit meant very, very much to us. To what must this result be attributed? To personality; nothing else. It shows what personal power will do.

That business house or manufacturing establishment which makes a constant practice of extending a personal welcome to the customers who come to its doors has learned one lesson in the success-book. Proper personality, even in the busiest retail house, radiates that atmosphere of welcome. In the great retail commercial house there may be no actual hand-shaking, but the customers feel that air of welcome almost unconsciously; for business houses, when rightly directed, have personalities as well as individuals. With manufacturing establishments there is opportunity to extend personal welcome to visiting customers. Let them know that they are at home. We are anxious that our customers who visit us should have full opportunity to observe every detail of the business; and that means that they are welcome to start at the pattern-making branch and visit every other department up to the general offices. We have no mysteries about our bookkeeping. We are glad to know that our customers are so interested in us that it is possible to establish such close personal relationship.

In putting the test of the power of personality to individual proof there is one case particularly that occurs to

me. Twenty-three years ago there was a young man at Detroit's telephone exchange. He handled the line that ran to my desk. He showed his ability to adapt himself to circumstances. He had that personal quality which fits itself to environment. And no telephone service was better than that segment of service which came under his control. Within a short time he was given a place with us — a very small place, that of a messenger. But he insisted that he was quite willing to take the opening that afforded.

That man now is one of the leading department heads; and his sole capital at the outset was personality. But that capital, to him, was better than money without personality. Men like that are always wanted. There is always a place for them. Just such men are needed for other departments, but they are hard to find. This man has continued a firm believer in the power of personal force in business. He has sought to develop that personal factor in the men under him. He has sought to train young men and develop their individual abilities so as to fit them for positions higher up which may be available for them if they prove worthy.

So I believe a young man of character and personal power can be developed into almost anything desired. Ability differs in each man, of course. But the business man can profit by training young men and placing them in those positions for which their abilities best fit them. Many a great business-builder in this way has been enabled to lay the foundations heavy enough and build his organization broad enough to meet promptly and most effectively every demand which ensuing years of leaping growth laid upon that industry. Many of the largest business houses of the country have attained their present magnitude because their organization structures were built

on these lines. Personality was thus made the dominant power throughout the business structure. And it was that element, backed by system and careful business methods, which achieved.

Thus the personal element, when properly developed and rightly directed, permeates the entire business establishment. It attracts and holds the customer. The clerical force and the entire working body, by an unconscious process of absorption, it may be, comes under the spell of this personal force.

I do not set myself up as a business mentor. I have stated only facts and deductions that have fallen to years of practical business experience and observation. But — get personality into your business.


Let your employees understand that they have a personal value, that there is a personal interest attaching to them, that personal force counts in every branch of the business. In return, you will secure that personal interest which means loyalty and the best effort with which each employee has been endowed.

Let your customer know that a personal interest attaches to him — a real personal interest that is not measured wholly by his orders and his dollars — and you will win in return that close, personal association and active support that builds up business.

It is personality — personal force — that counts.

THE CAMPAIGN THAT FORGOT QUALITY¹

BY LEE MACQUODDY

“HE change begins to-morrow.”

Talman looked steadfastly down the left-hand side of the council table, across at the other end, up along the right-hand side, and shut his lips with a snap.

The council, assembled from the near and far ends of the store, sat up and took notice. It was half after seven in the evening. Talman had become general manager exactly one hour and thirty minutes before, when, in the presence of those assembled, he had stepped into the official shoes of the retiring general manager, who for a twelvemonth had been nothing more vital or important in the firm than a name on a frosted glass door. During that hour and thirty minutes Talman had talked. It was not a common sort of talk that he had made. He had waited a year to make that talk, held back by the refusal of the old general manager to give consent to the utterance of the ideas therein contained. And his ideas and plans and opinions had grown harder, and the words wherewith to express them had grown warmer with each day that they were suppressed. The obstacle had taken himself away, and the accumulation of twelve burning months rolled off the tongue of Talman in a stream upstopable and full of fire.

The men about the table hung on his words with careful ears. Talman, they knew, was going to change things; and according to the nature and scope of the change so

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might their positions and interests be affected. They were not disappointed. Talman was going to change things, and change them much.

“This store has been a follower of the procession too long,” said he. “Now it’s going to begin to be a leader. We’ve played the staid, conservative dodge until it’s all but put us in the has-been class. Now we’re going to quit conservatism. We’ve been the quiet people — like a graveyard; now we’re going to begin to make some noise. We aren’t going to feel satisfied with having the trade of some of the best of the people of the town; we’re going after the trade of all the people. We’re not going to let the other fellows split up all the transient trade; we’re going to get our share of it. We’ve boasted that our store has been our best advertisement — and the number of people in this town who don’t know that there is such a place as Bustel’s would double the annual profit if they’d leave a dollar apiece here. We’re going to make people know that we’re here. We’re going to make people talk about us. ‘Bustel’s’ is going to be made synonymous with ‘department stores’ in this town. We’re going to quit being old-fashioned; we’re going after business along strictly modern lines.”

The men at the table leaned forward and nodded their appreciation. To a man they were “Bustel men.” They had grown up in the house, and their loyalty to the store and its traditions was proverbial. But there was not one of them but knew that all that Talman said and all that he implied was the truth. Bustel’s was the conservative store of the town. It was not one of the largest; but if it had been stock on the market it would have been classed as a safe investment rather than a means for speculation.

It had never entered strenuously into the white-heat department store competition of the last decade, and con-

sequently it had not reaped its share of the phenomenal concentrated retail trade development of that time.

Of course there could be but one result. Bustel's had fallen behind. It was a follower of the procession. A man who could lift it out of the rut and to the front was what was needed. Talman seemed to be that man. Only, thought some of the veterans, only he was so confounded "new."

"The change begins to-morrow."

They had not come prepared for anything like that. The old régime had made radical changes a matter of weeks and even months of consideration. The older men half rose as if to protest, but Talman went on undisturbed.

"Under the old order of things we would have made a leader of the carpets in Store 8 to-morrow. Now we'll take the carpets downstairs on the main floor and use all of to-morrow's newspaper space in making a bargain of them. This will be the policy of the house from now on. Hopkins, how much space were you going to use to-morrow?"

"The regular column," replied the advertising man.

"Make it five columns, solid, half a page deep. I'll —"

"Oh, that's too much" — Hopkins was on his feet in a flash.

"Yes, too much," said the manager of Store 8.

"People aren't used to the notion of looking for bargains here," continued Hopkins. "The chances are that people will hardly rise to the first bargain sale in a way to justify using that much space. They won't be expecting anything like this from us, and it won't mean anything in particular to them.

"Think we'd better lead up to a bargain gradually — have an announcement of the new policy at least. Start

small, go up gradually; then, later on, knock 'em in the head with a half page."

"Take too much time, too much time." Talman spoke sharply. "We'll begin knocking 'em in the head at the start. We've been behind long enough. We've got to rush things; haven't any time to waste. We've got to make the store talked about. We've got to get people into it. Only one way to do that for us — bargains. We'll make a specialty of bargains. But these have got to be real bargains, so low in price that they'll make some stir. And we'll begin with the carpets."

"They're not low enough to be sensational," said the manager of Store 8, curtly.

"Make them low enough," retorted Talman.

"The Colossal is four cents under us on the same stuff."

"Then cut our price to four cents under them. And, Hopkins, get that space, sure."

Next day the evening papers told in sensational fashion of the big carpet bargain sale to be held at Bustel's on the morrow.

At eleven o'clock Talman, Hopkins, and the manager of Store 8 stood on the balcony in front of the manager's office and looked down at the bargain tables below. There was no seething mob there around the carpet bargains, but there was a good, steady run of customers. They were obviously filled with curiosity — a bargain sale at Bustel's was a novelty; and there were faces among them that never before had been seen within the Bustel walls.

"Well," said Talman, "everything considered we've started well. Now we'll begin to do things. We'll have another bargain leader next Tuesday. We'll have 'em right along. We'll make people talk about the store, and that'll bring 'em into it — and that's all we need."

“Bargains,” said Hopkins; “we don’t pick up bargains every day.”

“But we ’ll do it now. They ’re to be had, and we ’ll get ’em. Leitner ’s the man; he can get ’em. A few cents under anybody else is enough to make a bargain out of anything. And with a wide-awake man to look out for them, it’s foolish to say that they can’t be picked up. But these have got to be bargains; something sensational. Leitner ’s East now. We ’ll have him land a lot of shoes. We’ll make that next week’s leader.”

The shoe bargain was a sensation. The shoes were regular four-dollar goods. The brand had been advertised at that price all over the width and breadth of the country. Everybody knew that the Walker shoe was a four-dollar shoe. And Bustel’s put one thousand pairs of them on sale at \$2.98.

Again, at eleven o’clock on the morning of the sale, Talman, Hopkins, and the manager of the shoe department stood on the balcony overlooking the main floor. Below them they saw what had never before been seen in Bustel’s: a regular bargain crush. Behind the counters the salespeople stood so thick that their elbows touched when they bent over to write sales checks. Before the counters men and women stood packed four deep, pushing, shoving, frantically thrusting their money over one another’s shoulders, determined to bear away one pair of Walker Shoes at \$2.98 no matter what the consequences.

“Of course,” said Talman, jubilantly; “of course. We ’ve rushed them off their feet. Now what do you say, Hopkins? ”

“That ’s a sensational bargain,” said Hopkins, noncommittally.

At two that afternoon the salespeople were saying: “No, madam, no more of the special shoes; all sold

out. Yes, sir, all gone. No, not a single pair left, ma'am."

At four, people were coming in to ask for the shoe bargain. At five, they were still coming. When they were turned away they looked vexed. The opportunity to buy real Walker shoes at \$2.98 was something of which it was not good to be deprived. Everybody in the store agreed that the sale had been a success.

On Thursday, two days later, an irate woman sought the manager of the shoe department. She held in her hand a pair of Walker ladies' shoes. They had been rained on and the leather had hardened and cracked. The woman was an old and valued customer. She had not been accustomed to buying such goods at Bustel's. She was not going to take such goods from Bustel's. She wanted her money back.

"But you've worn the shoes, madam. You know we don't refund on used goods."

"Not on goods like these?"

"No, madam."

That was all. That was how Bustel's lost one customer. That was how they lost a dozen more. The shoes were not made in a way to make or hold customers.

The incident came to the ears of Hopkins, but he brushed it aside. They had sold one thousand pairs of shoes in one day; and the store had got talked about, talked about extensively. What were a dozen customers lost to the attention of a thousand people gained? Talman went ahead with his preparations for a series of bargains.

At the end of the first trimonthly period of Talman's rule the store had held twelve big bargain sales. Talman eagerly scanned the complete report for the period. The first six bargains he saw had been successful to an extreme.

The next three had not been so successful. The last three had been failures.

“That’s strange,” said Talman. “There should be an increase instead of a decline. The store should be well known by this time. It must be that we’ve got careless in the selection of bargains — haven’t kept them keyed up to the first high standard that we set. We’ll have to stir ’em up again. Another big sale ought to bring back the crowds. Funny thing that they’ve fallen off like this. It’s our fault, though. We haven’t maintained the pace.”

There followed promptly another calling of the store council.

“Gentlemen, we have fallen down in the prosecution of our new policy.”

Again Talman ran his eye down one side of the table, over to the opposite end, up along the other side, and again he closed his lips with the snap that marked them when he was chock-full of determination on any idea and about the express himself accordingly.

“We have fallen down badly. We made a good start. Nobody could have made a better start. The reports on the monthly periods show that for the first six weeks after the institution of our new policy we did more business than I had hoped and planned for; and I had put the figure high. The total increase for these six weeks averaged ten per cent per week. Despite the low prices which we made on the leading bargain sales for this period the normal percentage of profit was maintained in the store as a whole. This means that the profit was increased ten per cent over what it was for the corresponding period of last year. That is an astonishing increase; and it proved that we were justified in our idea of rushing the store into quick popularity. Had this degree of increase been maintained, — and I must say that I had expected it to be

increased steadily, — if it had even been maintained, I say, the new management would have been a success from the beginning and would have owed its thanks to the organization that made the success possible. As it is, we have fallen off so much in the last half of the quarter just past that the average sales for that time show an increase of only one per cent over last year's figures, with an actual loss of two per cent for the last week of the quarter. In other words, we went up the hill at a trot and came down on a gallop. There can be only one reason for this in my mind: we have failed to keep up our gait. There has either been a lost interest, a diminution of energy, or else we have allowed ourselves to become victims of over-confidence."

"One moment, Mr. Talman, if you please." The superintendent was on his feet. "Have you made any decisions regarding where and how this loss of interest has taken place?"

"Oh, come," said Talman, "we're not going to quarrel. I say —"

"But I want to know. I'm personally responsible for the organization. I —"

The council was in an uproar in an instant. Out of the turmoil came the superintendent's voice: "If you'll pardon my saying it, Mr. Talman, you're wrong when you say there's been any let-up among us. You're wrong, emphatically."

"Well, anyhow," retorted Talman, in a conciliatory tone, "we've fallen down in our sales. It doesn't matter how, but we have. Now we've got to resume the pace we set at the beginning and get back the trade we won and lost so quickly. Everybody had a hand in the winning of that trade, and it's only fair to say that everybody had some sort of part in the losing of it, as the loss was

felt all over the store. Therefore we've got to redouble our energy along the line we started on three months ago. We've got to get more bargains, more sensational ones, and advertise them more extensively. There mustn't be any friction in the store. We've got to pull together, for the chance is a big one, as the beginning showed. We've got to feel that we haven't done so well as we could, — even if we have, — and we've got to go at things with the idea fixed in our minds that we're going to do better — even assuming that we have done well. That's all. The policy has proved itself right; we have only to follow it up properly."

"Well, it was the shoes that made the biggest impression and brought the biggest crowds," suggested Hopkins.

"Quite right. We'll have to begin to repeat, so we'll start on shoes again."

Then and there Talman sat down and wrote to Leitner, who was in the East again, a telegram which shall be introduced later in the story.

A week later, according to his custom, Talman came out to inspect the progress of the bargain shoe sale. When he looked down on the floor below, his face fell. Instead of the pushing, crowding mob which he had expected to see he saw a straggling line of men and women around the shoe counters, a mere corporal's squad where he had expected an army. Instead of being rushed to the limits of their capacities, the salespeople stood around behind the counters laughing, talking, doing everything but selling goods. The sale was as flat a failure as one could imagine.

All day Talman waited for the signs of an improvement. All day he waited in vain. The tempting announcement that Bustel's was holding another one of its justly famous

shoe sales brought no crowds within its portals. A sprinkling of strangers were there, and a sprinkling of old customers. The latter looked critically at the shoes offered, paused — and went away without buying. The sale was a failure; there is nothing more to be said.

Hurriedly Talman gathered to him the superintendent.

“What’s the matter here?” he demanded. “Come down and let’s look over the display.”

Down at the counters the superintendent picked up a pair of shoes and held them up.

“These are not Bustel goods, Mr. Talman,” he said.

“No, they’re bargains.”

“They’re pretty bad.” The superintendent was holding the top wide open, revealing plainly the cheap inside.

“Look at the price,” retorted Talman, pointing at the signs.

“Yes, I see. That price, Mr. Talman, would be a bargain for this brand of shoes — for the real goods. But it isn’t for this stuff.”

“There’s the name.”

“Yes, there’s the name, all right — but there isn’t any crowd, as there ought to be with that name selling at this price.”

Talman raged inwardly until all hope that the sale would prove a success was gone. Then, still raging, he sent for Leitner.

“Leitner, do you know what this last bunch of shoes was like?”

“Of course,” said Leitner.

“They were rotten.” Talman thumped his desk expressively.

Leitner shrugged his shoulders and reached into an inside pocket.

“Look at this, please, Mr. Talman,” said he, handing

the latter a crumpled telegram. "I got this at Brockton just before I bought this last lot."

The telegram read:

"Get another shoe bargain. Good as first one. Must have it. Must be sensational in price. You understand. TALMAN."

"And at that the lot was just as good as the first one," continued Leitner. "In fact, it was a shade better."

"You're sure?"

"I'm sure."

"Well, that's all, Leitner."

Alone with himself, Talman sat down and admitted the lesson. It came hard, but he was a good business man, after all. He was firmly rooted in his ideas and opinions, but he possessed the great, the profitable saving grace: he could be taught.

He had been taught now, and he admitted it freely — to himself. The bargain sales that he had instituted had failed most naturally. The goods were poor goods in quality — miserably poor. They had to be at the price they were sold. At first they had gone well. The prestige of Bustel's had carried the early days. Then, due to the inferior quality of the goods, Bustel's had ceased to have any prestige in this regard.

And during the limited time the experiment had run, the new style of advertisements having attracted only a certain part of the bargain hunters of the city, the later bargains had fallen as flat as they deserved. Those who had bought had bought to their sorrow — and only once. After the fact that the bargains were under the Bustel roof had ceased to sell them, they had ceased to sell. A bargain was a bargain only when it was — a bargain.

It was a poignant lesson. Talman studied his reports for an hour before making a move. Then he called his stenographer.

“Take a note to the heads of all departments:

“In the future only goods of a standard quality must be bought and sold in all stores. You are requested to notify the writer of any goods of inferior quality that may come in. TALMAN.’

“Now,” said Talman, when the note had been written, “we can start in on even ground with the other fellows. We’ve learned what it takes to make a bargain.”

IMAGINATION IN BUSINESS¹

BY LORIN F. DELAND

WHEN Napoleon caused the names of his dead soldiers to be inscribed on the face of Pompey's Pillar, some one criticised the act as "a mere bit of imagination." "That is true," replied Napoleon, "but imagination rules the world."

Let us consider the application of imagination to one thing; namely, to business. It would be easy to trace the world's inventions to its imaginative men, and tell interesting stories of the gain to the individual from a single thought. We had all watched children go scuffling along to school, stubbing their toes at every step, and it meant nothing to us. But one day an imaginative man watched them, and saw the effect of putting a thin strip of copper across the toe of the boy's boot. The world gave him a million dollars. It could afford to, out of the many millions it saved. Or, leaving inventions aside, we might trace the imagination which made the waterfall of Niagara feed the electric lamps in the city of Buffalo, twenty miles away.

But, confining our thoughts within an even smaller circle, let us follow the workings of the imagination in the most material form of business — that of ordinary merchandising. I believe that imagination is as valuable — I do not say as essential, but as valuable — in the man-

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agement of trade as in any of the arts. It is as valuable, it is as applicable, and with the single exception of the art of literature, it is as essential.

Let me tell the story of two bootblacks. We can scarcely go lower in the business scale. These two boys, of about the same age, I found standing, one Saturday afternoon, on opposite sides of a crowded thoroughfare in Springfield. As far as could be judged, there was no preference between the different sides of the street, for an equally large crowd seemed to be moving on both sides. The bootblacks had no regular stand, but each had his box slung over his shoulder, and, standing on the curbstone, solicited the passers-by to stop and have a shine. Each boy had one "call," or method of solicitation, which he repeated at regular intervals. The two solicitations were entirely different, but each was composed of four words. They never varied them. Yet one of these boys, by the peculiar wording of his solicitation, secured twice as much business as the other, as far as one could judge, and I watched them for a long time.

The cry of the first boy was, "Shine your boots here." It announced the simple fact that he was prepared to shine their boots. The cry of the second boy was, "Get your Sunday shine!" It was then Saturday afternoon, and the hour was four o'clock. This second boy employed imagination. He related one attraction to another; he joined facts together; his four simple words told all that the first boy said, and a great deal more. It conveyed the information, not simply that he was there to shine shoes, but that to-morrow was Sunday; that from present appearances it was likely to be a pleasant day; that he, as a bootblack, realized they would need an extra good shine; and, somehow, the sentence had in it a gentle reminder that the person on whose ears it fell had there-

fore overlooked the fact that the next day was the Sabbath, and that any self-respecting Christian would wish his shoes shined before he repaired to the sanctuary. Perhaps it was merely good luck that this boy secured twice the business of the other, but I have seen too many of such experiences to think of them as accidental.

The imaginative man sends his thought through all the instincts, passions, and prejudices of men; he knows their desires and their regrets; he knows every human weakness and its sure decoy.

Let me illustrate next that use of the imagination in business which is cleverly built on the frailties of mankind. It may be instanced in as many ways as there are human weaknesses. Under this head comes the subscription book, offered to you in a delicately-worded circular, explaining that an edition of two hundred copies only is to be printed, and the plates then destroyed, thereby insuring the rarity of the book. If we stop and think a moment we recognize that here is a direct appeal to vanity and selfishness. Yet it works! Men are gratified even to be included in the list of recipients of such an invitation. And yet, really, the invitation is tantamount to an insult, for it assumes your overmastering vanity and selfishness by making its strongest appeal in this direction.

Another weakness in human nature is the inability to throw away an element of value, even though it can not be utilized. Many years ago one of the large retailers of Oriental rugs in this country, the representative of leading houses in Smyrna and Constantinople, found himself overloaded with goods. The situation was critical unless a certain part of his stock could be turned over at once. The firm had but one proposition to make, namely, a great sacrifice sale of its smaller sizes of rugs, with a reduction in price of from fifty to sixty per cent to insure

the movement of at least a thousand rugs, at retail, within one week. An average price in small Oriental rugs — take them as they come — would be thirty to thirty-five dollars. This called for an average loss of profit on each rug of from fifteen to twenty dollars. But just here imagination was applied, and another course was recommended and adopted, which was based upon the inability of the average person voluntarily to throw away an element of value. This was twenty years ago, and the plan has since lost much through familiarity; but in those days it was a novelty, and it worked most effectively.

Briefly, it proposed not to sell rugs, — oh, dear no! — but to determine the relative advertising merits of the different newspapers of the city in which this house was located. A test was to be made for six days. Of course the firm was willing to pay something for such information, and so in each paper there was printed a facsimile of a one-dollar bill, made out in the name of the firm, and good during the next six days to the extent of one dollar on the purchase of any Oriental rug at their establishment. The imitation one-dollar note was somewhat crude, but in size and general appearance it suggested a dollar bill, and results showed that it was difficult for many persons to regard it in any other light. At least, they found it as hard to let it go unused as if it had been indeed a genuine dollar. To all intents and purposes it was a one-dollar bill, provided it was spent at a certain store during a certain limit of time and for a certain article. It seems incredible now, for the experiment was not tried in a large city, yet within three days the volume of rugs sold amounted to the largest total yearly discount limit; in other words, the greatest discount given to any retail house if the volume of its sales in one year could be made to equal this total.

The anticipation of one thousand rugs was far exceeded in the performance, and the week ended with sales of sixteen hundred rugs. On these there had been a total discount of sixteen hundred dollars, with but little more than the customary daily amount of advertising, and a complete saving of the large sacrifice which had at first seemed to the firm to be inevitable. The experiment was a bold one, for had it failed the firm must have suffered ten days' delay at a time of pressing necessity. I had faith in the plan, however, because it was founded on a principle in human nature — the inability to throw away an element of value.

Mark this fact! It was not the price. It never is. It was the *reason* for the price. If, instead of giving the buyer one dollar toward his purchase money, they had taken twelve dollars off the rug, there might have been sold, perhaps, two hundred of those rugs — scarcely more! But by making one-twelfth as good an offer in a more imaginative form, they sold — not two hundred rugs, but sixteen hundred. That is imagination in business.

We have now taken two weaknesses in human nature, namely, selfishness and acquisitiveness, and shown the baser use of the imagination in business, which rears its fabric on such weaknesses — using the word “baser” not to imply a moral defect, but merely to designate such usages as relatively less pleasing than other instances which might be cited.

It must be remembered always that it is not the price of an article which is important, but the *reason* for the price. This is one of the backbone truths of merchandising, and when once a seller gets a firm hold of this fact, and is able to apply it in its highest efficiency, he can almost devastate the trade. I have seen on more than one occasion the delight with which a retail advertiser

first clearly grasps this idea. We can detect something of it in one of the illustrations just used; but now what is the reason which underlies this law? Is it not this: that the argument for the price is the imaginative part of the transaction?

The price itself is absolutely unimaginative. Admit that the reason for the price is an important thing in the transaction, and that a high price with a good reason will sell more goods than a low price with a poor reason, and it is only reaffirming, in another form, the potentiality of the imagination in business.

The bankrupt stock, the fire sale, the manufacturer's remnants, the annual clearance, the removal sale, the dissolution-of-partnership sale — what are these, and many more, but arguments for the price? And note this one point: that without the argument the price is powerless. Reduce your fur-lined overcoats from one hundred dollars to sixty dollars, and your liberal discount attracts little attention. Why? Because there is no reasonable explanation for the reduction. Why should you present overcoats to the public? But announce that, owing to an expiration of your lease, and the imperative command that you vacate your present store within two weeks, you will reduce the price of your fur-lined overcoats from one hundred dollars to eighty dollars, and you may sell easily all you have to offer. Instinctively, the public sees the whole picture — the proprietor's anxiety, the inevitable removal, the vanishing days, the final sacrifice, and the store full of eager buyers quick to seize such an opportunity. This is only half the reduction previously considered; but one is business without imagination, the other is business with it.

Approach the whole question from another standpoint. Perhaps there is no better index of the value of imagina-

tion in business than the immense importance which attaches to the selection of a name for any article. To describe an article in an imaginative vein is to sell it at once to many persons; merely to give it a good name is to sell it to a few. So important is this matter held to be by those who have successfully grasped the value of imagination in business, that it has been used for no less an object than the stifling of competition.

Let us assume that to-morrow you decide to embark in the business of manufacturing a toilet soap, to compete with some of the well-known makers. It is important that it should have a significant or attractive name. That is a first consideration. But, right at the outset, you discover that it is almost impossible to secure any satisfactory name for a new soap. Its color, transparency, and clearness suggest the title of "amber soap." Yes, surely "amber soap" does have an attractive sound. But you can not use the word "amber," for you find that this is one of a list of twenty-four possible names for a toilet soap, preëmpted by registration as a protectionary measure, years ago, by one of the leading American soap-makers. They have covered over one hundred names in the past quarter of a century, willingly paying the registration charges of twenty-five dollars for every title.

Of course, they do not intend to use them; they register them to fight off competition, believing (and here is the important point!) that no clever business man (and it is such competition which alone they fear) — would embark in the enterprise of manufacturing a new soap, when from the start he was prevented from employing the powerful weapon of imagination in giving it a suitable name. If an establishment like this, directed by some of the ablest heads in the business world, believes that it can discourage competition by simply depriving the would-be

competitor of the appeal to the imagination in the naming of his soap, how great a value must we attach to imagination in business!

More striking instances of this endeavor to intercept competition may be found by a perusal of the trade titles and trade-marks registered in Great Britain. Ten years ago there were only twenty-seven thousand trade-names registered in the United States as against one hundred and eighty-two thousand registered in England. The English, from whom we have borrowed the idea of protection by registration, take most of our American names that have any originality or value, if the owner for any reason has left them unregistered at the expiration of the six months during which the trade-name is protected for filing in Great Britain. English manufacturers have gone to the extent of protecting themselves, not merely in their own line of goods, but in all lines of manufacture, thereby preventing their trade names from becoming commonplace by their repeated use. Thus the word "Sunlight" has been registered by its owners, not merely as the name of a soap, but for practically every article of household use to which the name could be applied.

Let me try now to illustrate the use of imagination in business by an instance where the medicine was compounded to be taken internally. It was the question of a humble employee. We will say his name was Mills, and he was one of the army of workers in the service of a wholesale and retail clothing house.

He came to me with his serious problem: he had been employed by this house for three years in the wholesale department; he had received one small raise of salary at the end of the first year, and now, after two years of waiting, he was side-tracked, as he thought, hopelessly stalled on the road to business success, one of the in-

numerable teeth in the mighty gear, of no special value, and with no prospects whatever for the future. He wanted to marry (on seven dollars a week!), and this had added to his discontent with his surroundings. He came to ask me whether he had not better give up his situation, and trust to luck to find something better.

I urged at once against such a course, and told him to look for something better while still holding his present situation. He said he had tried that for some time, but found himself restless. I said to him, "Mills, the important thing for you in this matter is to ascertain whether you are paid all that you are worth; and, that settled whether you can make yourself worth any more. But first of all let us see if you can make yourself worth any more, whether you are paid it or not. If you can, you had better stick, and look for your raise at the first fair opportunity." He agreed with me in my hypothesis, but said he did not quite understand how that could be found out. I said, "I can not find it out to-day, but if you will put yourself in my hands absolutely for three months, I will guarantee that we shall both have an answer to that question." He agreed, and I went ahead. Here were my instructions to him:

"For the first thirty days I want you to put your mind on one thing only; drop all outside nonsense, and focus your entire attention, thought, and energy upon this question: By what method which *you* can devise can your house sell one hundred thousand dollars' worth more of goods every year than they are now selling? (Mills gasped!) Or ten thousand dollars worth more? Or one thousand dollars worth more? *Or one hundred dollars worth more?* When you have discovered your plan, work it all out on paper, put down the figures in black and white, verify every item of expense, and take the complete

showing, at a favorable moment, to the man on whom you must depend for your raise of salary. However good the idea may be, when you present it to him view it tentatively; tell him as modestly as you can that you believe that the prosperity of the house should be as truly your concern as his; that both your fortunes are in the same boat; say frankly that you hope it may not seem presumptuous that you should seem to suggest reforms or changes, but that you are really interested in the success of the business, and it is this interest which must be blamed for any seeming intrusion on your part. Put it to him modestly; if he decides that the idea is not good, say you are sorry for having wasted his time, and get out as quickly as you can. Then go to work on another idea. When you carry this to him, if he negatives it also, make your excuses and ask him if there is any objection to your still studying and trying to plan out some method by which the business can be extended."

In a general way, with a good deal more of explanation, I think I made him understand how he was to present his idea, so that in no case would he be in danger of losing his position or the good will of the firm, by seeming to have their interests very closely at heart. Thirty days passed, and Mills came to me. His report was brief. With all his thinking, he had found no method by which the business of the firm could be extended even one hundred dollars a year. I then put him to work upon his second month's labor, which was this:

"See whether you can discover any method by which, while losing no present advantage or trade, the firm can transact its present volume of business with greater economy, so that, by your improved methods of conducting the business, there shall be effected a saving of fifty thousand dollars a year; or five thousand dollars

a year; or five hundred dollars a year; or *fifty dollars a year!*”

I thought he drew a rather long breath as he left me to go to work for thirty days on this proposition; but he, more or less manfully, went through the second stage of his labors, and at the end of another thirty days he came back to me with his report. He had been able to discover no new method whereby the firm could economize on its present system. He had, however, discovered one thing, namely, that he would not need to go ahead for another thirty days with our experiment, for he had about made up his mind that he would continue where he was.

I said to him, “So, Mills, you don’t care for any more of my advice? Well, this time, I am going to give it to you without your wanting it. My boy, just realize for one moment where you stand. With the enormous volume of clothing business which is being done, and with the undoubted expansion which can be effected, you are not able, though you have worked three years in this house, to increase the volume of this business one hundred dollars a year; with the elaborate and necessarily wasteful methods in which that great business is transacted, you are not near enough to it to be able to point out a better system in any department whereby the small sum of fifty dollars a year may be saved.

“Now, Mills, let me give you a last word of advice, and it is valuable advice. My boy, lie low! Attract just as little attention to yourself as you can. Don’t let the proprietors or manager remember that you have been three years in their employ, if you can help it. You are an absolutely unproductive man. If they knew how little capable you are of development and progress, they would change you off to-morrow for some young man of greater promise. Lie low, my boy. Keep out of prominence as

much as you can, and go down on your knees to-night and thank God that you have got a situation where you are paid all that you are worth.

“I don’t mean that you are a bit inferior to thousands of other young men who are in the stores and wholesale houses in this city; but you, like them, are simply sitting upon the head of the one brainy man who sits in the counting-room. He has to solve all these problems. You and fifty others in your establishment are just sitting on top of his head, like so many dead weights. If the business prospers you expect a raise of salary, when it is his head-work that has gained every inch of the progress. He has to carry you all.”

The young man went off, sadder and wiser than he came. For the four years thereafter in which I was able to follow his course, he held the same place and at the same salary. Now, in a last word, what was the object of this experiment? Of course, I did not expect that this boy was going to revolutionize the clothing trade. It was simply to find out whether he had in him any imagination which he could employ in his business. I was willing to stake my prediction of his fate on the result of that one question, and I think the years have shown him that I was right.

We have already seen imagination applied to the boot-black’s business; now let us take the most hopeless situation that can be found — that of the unpractical, stranded man, out of employment, knowing no trade, having no capital (except a man’s ordinary strength), and without hope, courage, or faith in himself. We all know such cases. They are simply men who have failed many times, and finally lost heart completely. They are willing to work, but they have no work, don’t know how to get it, don’t know what work to get, don’t know how to do it

properly when they get it. To such straits has many an honest, self-respecting man fallen under the repeated blows of fortune. His unpracticality made the failures, the failures made the despondency, the despondency paralyzed the will.

Now what can we do for him? How shall we get him up on his feet? You can ease *your* pain by giving him money, and so sinking him a little lower. Try for something much finer than that. Why not give his case the benefit of just a little of that imagination that we have been considering, and that will come to your aid if you will simply put yourself for a few minutes squarely into his shoes, and then ask yourself what you would do if you were he and needed work. Don't tell him to apply at some of the big stores or factories; he has made many such applications; his own poor imagination has helped him to that extent. *Keep him away from the beaten track!* There are professions and occupations to be discovered all around you that as yet have not been worked at all.

I will tell you what was suggested the other day to one poor fellow of this sort. He was told to make a business of going round to houses and washing pet dogs for their owners. You laugh at it, perhaps, but it didn't take over a month to create for that poor man a good business that was non-competitive and independent. He charged fifty cents a dog, and in most cases it was a regular weekly service. It was not difficult to get the business. There was no one else doing it, and your wife will tell you that the washing of a dog is not the scheduled work of any one of the maids in the house. I admit it is not easy work, nor always agreeable, but, personally, I would rather do it than sell coal-hods in the basement of a department store from eight o'clock in the morning till six o'clock at

night. In the dog-washing business you are independent; you work for yourself; you operate a genuine industry; no superintendent dictates your hours, or discharges you at his leisure; you are your own boss.

This last may seem a little thing, perhaps, but to the man who has one spark of ambition or one remnant of self-esteem yet left to him it may mean much. It is a finer thing to make a human being fit for liberty than to set him free, and in this small chance to govern his own career there is the seed of true independence.

And now, shall we not all agree that there is a faculty which can accomplish in business such remedial and constructive work as we have been considering? It is not enterprise, nor thrift, nor industry, nor sagacity, nor courage. Nor can all these qualities combined supply the place left vacant by the lack of imagination. They each have their value, and by any of these roads a man may win to success. But the faculty of which I now conceive **MAKES HIM CAPABLE OF UNDERTAKING ANY BUSINESS!**

THE BUSINESS OF A FACTORY¹

BY PHILIP G. HUBERT, JR.



LET me take a big cotton-mill making and printing its own calicoes, as the type of an American manufacturing business. If a man wants to enter the business of making calicoes, the question of capital is the first consideration. Most of our cotton-mills and paper-mills are stock corporations, largely because of the vast capital needed. The larger the plant the cheaper the product, is an axiom in the cotton business, especially when staple goods, such as sheetings, are to be made.

There is always a market here or abroad for American sheeting, and the sales are often made in such vast quantities that the danger of overstocking the market is as nothing compared with fancy dress-goods, shoes, or worsted cloths, the fashions of which change from one year to another. It is not unusual to hear of the sale of thousands of bales of sheetings in one operation. It follows, therefore, that the manufacturer must be ready to take advantage of these periods of profit, so to speak, and be ready with his tens of thousands of bales of goods, where the manufacturer of goods liable to depreciation through change of fashion, such as shoes, hats, fancy printed cloths, etc., does not dare to manufacture much beyond the current demand of the market, and is consequently debarred from manufacture upon the vast scale seen in the mills at Fall River, Lowell, and Lawrence.

¹ By courtesy of the author and Charles Scribner's Sons. Copyright, 1897.

The capital needed for cotton-mills being therefore very large — the mill I have selected as a type having a capital of three million dollars, and its property being assessed at nearly five millions — the ownership is commonly held by a stock company. Boston is said to depend for its cake upon the profits of the New England cotton-mills. When cotton goods sell at a loss, Commonwealth Avenue, metaphorically speaking, is reduced to bread. It speaks well for the business that in the last twenty-five years there have been no failures of importance among the New England cotton-mills.

In calico printing one-tenth of a cent a yard is a fair profit. In paper manufacture three to five per cent upon the product will yield ten per cent upon the capital invested. In sugar refining one-sixteenth of a cent profit upon a pound is more than satisfactory. In making pianos the average wages of the operatives are high as compared to cotton and shoes, and the capital involved comparatively small. Wages in the piano factories of New York and Boston average nearly twenty dollars a week, taking the whole shop, but the profit upon the product in good years runs as high as fifteen per cent. In the manufacture of locomotives, the average wage is high, no women finding employment, while in the manufacture of small arms it is correspondingly low, women being largely employed. Reviewing the whole field, it will be found that the product of factories is constantly growing in value and wage increasing, as compared to the capital involved.

The difference between the cost of manufacture and the retail selling price, or the share falling to the middle-man or men, varies according to the class of product, the rule being that in staple goods it is small, and growing smaller every year, while with fancy goods and what are known as novelties it is large. Common heavy cotton

cloth, costing eight cents to make, sells at retail for about nine cents; fancy calicoes may sell at retail for double what they cost to produce. In sugar, half a cent a pound is the average difference between costs and retail price. Shoes costing two dollars to make sell at retail for three dollars.

The necessary capital having been subscribed and the manufacture of cotton goods decided upon, the question of site is next to be settled. In the past, good water-power has been of the chief importance in the selection of a mill site. The splendid water-power on the Merrimac, at Lowell, Nashua, Lawrence, and elsewhere explained the existence of gigantic mills at these places. Steam, however, is rapidly replacing water-power, notwithstanding the improvements made in turbine wheels. In most of the older mills of New England steam now shares about equally the work with water, while in the new mills it takes almost the whole burden.

When the margin of profit is so close as in any of the industries I have had occasion to mention — cotton, paper, shoes — apparently trifling things may mean success or failure. For instance, a girl who uses the left hand in adjusting a certain movement of the spindle instead of the right, does it, taking a thousand repetitions of the operation to make an average, about one-fifth of a second faster than the girl who uses the right hand. This seems an insignificant trifle, but multiply its effects by the million, in this particular trifle as well as in others, and the mill in which the faster method is enforced will forge ahead of the one in which it is not.

Another curious instance is cited in the fact that a certain gigantic flour mill of Indianapolis ascribed a balance on the right side of the ledger one year to the fact that ten hoops had been used on its barrels that year,

instead of twelve, as in former years. Its margin of profit on a barrel of flour may be seen to have been small enough. A great American manufacturer of matches saved \$8,000 in one year by the use of a machine which pasted the labels on the match boxes, the work having been done by hand before that by girls who pasted on twenty thousand labels a day, and got eighty cents for doing it, or at the rate of two hundred and fifty for a cent. The machine did the work faster and cheaper.

The better the operative the better the product, is a truism, and yet none but those who have studied the subject know to what refinement and minutiae of work the principle applies. This is true as between the mill-hands in different New England towns. When you come to contrast the raw, shiftless workers of the South with such as these, the advantage on the side of the North seems almost overwhelming, even handicapped as it is at present with higher wages. Notwithstanding all of which the South is still building cotton-mills and with New England capital.

The business organization of most big factories is simple enough. Almost all cotton-mill properties are managed by a board of directors elected by the stockholders. These directors appoint officers, among whom the treasurer and the agent are the important personages, the first having charge of the finances, the buying of supplies, payment of expenses, and selling of goods; the second having the actual manufacture of the goods under his control, the hiring of labor, the management of the shops or mills. The treasurer of most New England manufacturing corporations lives in Boston, where the goods are sold, and the agent lives near the mills. Taking a big cotton-mill, the agent employs a head or superintendent for each of the important departments, such as

the carding, roving, spinning, weaving, bleaching, printing, and packing. Under these superintendents there may be many or few foremen, according to the character of the work. In some departments where the work is all of the same character, each girl of the three hundred in a room doing precisely what her neighbor does, year in and year out, a few foremen suffice.

In one room at the mill I have in mind, a room 800 feet long by seventy feet wide, the girls who tend the spindles need small advice, and being paid by the product turned out from their machines, they need small supervision. In other departments, the print works, for instance, there are a variety of operations requiring comparatively few men, but a high grade of intelligence and constant supervision by expert foremen. The transfer of the designs to the copper rolls used in printing, the mixing of the colors, the adjustment of elaborate machinery, all this delicate work requires vast experience.

The discipline of such mills is by no means military. In visiting several of the largest of them I was impressed with the friendly relations between superintendents and men. "We never scold," said the agent of a big mill. "If a man or girl proves to be habitually careless or idle, a discharge follows; but for small infractions of rules we trust the various foremen to look after their own people. In the sixteen years I have been here we have had no strikes." At half-past six in the morning the bell rings for work to begin; there is an hour's intermission at noon, and then from one to six it goes on again. On Saturdays all work in most cotton-mills stops for the day at noon. The law limits factory work in Massachusetts to fifty-eight hours a week. In New York State there is no such limit. In some trades, the Lynn shoe shops, for instance, work begins at seven o'clock and there is only half an

hour's stop at noon. In Connecticut, the hours at Waterbury and Ansonia are the same as in Lynn. In the paper-mills of Massachusetts and Connecticut work begins at half-past six, with an hour at noon.

Opinions differ as to whether or not the growth of the factory system is a blessing to a community, but, as a rule, it is conceded that the standard of intelligence and of living among the mill-hands of New England is not so high now as it was forty years ago. And this, notwithstanding higher wages and shorter hours. In 1850, the average mill-hand earned \$175 a year, as against \$300 at present, and worked thirteen hours a day as against ten hours to-day. The American farmer's daughter who worked in the cotton mills fifty years ago has been almost wholly displaced, first by women of Irish and English birth, and more recently by the French Canadian, all representing lower types.

The factory law of Massachusetts prescribes that wages shall be paid weekly. This rule has been found to work rather disadvantageously as far as saving by the mill-hand goes, for, receiving so large sum of money in a lump, he finds it difficult to spare from the comparatively small weekly wage. Efforts are made almost periodically by many mill corporations to render the homes of the hands more sanitary than they were in earlier years, and attractive with gardens and flowers. In some towns, notably in Manchester, where the mill operatives number many native Americans, some success in this direction has been met with; in other towns, notably the larger centers, — Lowell, Nashua, Fall River, Lawrence, — where the population is either foreign-born or but one generation removed from it, not much has been effected. The hands live mostly in tenements unadorned with gardens or even grass-plots. A large number of the hands in every factory

are young people who have to board, necessitating the existence in all mill towns of large rows of tenements known as boarding-houses, as a rule, dreary homes inside and out. The people who live in them, looking upon themselves as temporary inmates or tenants only, can not be induced to better their surroundings, and will decline to care for the vines and flowers offered to them by their employers.

In none of the factories which it has been my privilege to visit have I found any such minute and effective care for the operative — man or woman — as obtains in certain of the great French and German mill towns. For some reason or other, possibly the greater independence of our mill hands, such comprehensive schemes for the care of their people as the mill-owners of Mülhausen, in Alsace, attempt through their famous *Société Industrielle* is unknown. This society, to which all the important manufacturers of a great industrial community belong, may be said to look after the welfare of the operative from birth to death. It provides mid-wives for the mothers, exempts them from labor in the mills for six weeks after child-birth, so that the infant may get a fair start in life, provides a *crèche*, or nursery, for the young children, schools for the older ones, technical instruction for all who deserve it, hospitals for the sick, libraries and amusements, pensions for the aged, and a decent burial for the dead. The work-people themselves are assessed to help provide the money for all this, but without the incentive furnished by a few leading philanthropists among the great manufacturers, nothing would be done. As yet the great manufacturers of Lawrence, Fall River, and Providence do not seem to have found the way to successful coöperative schemes of this sort.

As in most other trades, strikes are the bane of the

factory owner's existence. With a plant worth perhaps a million dollars brought to a standstill, and perhaps half a million dollars' worth of raw material in process of manufacture, a strike coming at an awkward time of year means tremendous loss.

Next in importance, or perhaps even of more importance than the character of the hands, comes the character of the machinery in use. The entire machinery of a mill may be said to change every twenty years, just as the entire material of the human body is said to change every seven years, or eleven years — I forgot which. I asked one mill superintendent, a veteran who has seen the inside of about every mill in the country, what he looked at most carefully upon entering a rival establishment. "First the machinery, then the hands."

The labor charge in the cost of a manufactured article varies so much with the character of the product that separate figures, or tables of figures, would be required for each factory. In plain sheeting it is small as compared to fancy prints and fine woollens; in shoes, the more expensive the shoe the greater proportion of cost goes to the workman. For this reason it has been suggested that in parts of the country where labor is cheap, the finest goods, those requiring most hand labor, would be most profitable to make. But as yet the rule is the other way, the older manufacturing communities having a monopoly of expert labor. It might be thought that with labor at ten cents a day, as in China, that country would turn out marvellous goods, requiring much hand labor, at low prices; and it is, perhaps, this expectation that has led to the building of cotton mills in China. The average wages in New England cotton mills, taking all the hands, exclusive of superintendents of departments, is \$7.80 a week. In the shoe trade of Lynn the earnings are higher.

In all factory work it is essential to have as complete a system of checks upon defective work as possible, especially since the opposition of the unions to improved machinery has made payment by the piece obligatory. In cotton-mills to-day more than seventy per cent of the hands are paid by the piece, in shoe factories ninety per cent, in brass-ware factories eighty per cent, and in paper-mills sixty per cent. The visitor to any big cotton-mill will notice that the spools of yarn from the spinners all bear a colored chalk mark, the finished roll of cloth from the looms a similar mark, and so on, from first to last, every piece of work bearing a mark, sometimes red, sometimes blue, all the colors and shades of the rainbow being used, and often two colors together. By this means each piece is traced back. The weaver who finds that the yarn furnished to her is defective in the spinning has only to examine the chalk-mark on the spool to find out who spun it, and so on through the whole operation till the finished piece of goods reaches the packer:

A factory having been put up in a suitable spot, equipped with proper machinery, and a force of competent hands engaged, the important question arises: What kind of goods shall be made? This is a question to be decided by the persons who sell the product of the mill — the selling agents. Under the direction of these agents, the art director, so to speak, of the corporation seeks high and low for designs, takes suggestions where he can, employs designers and artists.

We can surpass the world at machinery, but as yet we have to go to Paris for our designs. Each of the big mills where printed goods are made keeps its man in Paris watching the new designs and buying the best he can from the professional designers, of which there are a hundred in Paris, some of them earning as high as \$20,000

a year. A designer of international reputation commands his own price, inasmuch as the design makes or mars the product; it sells or does not sell according to the favor the pattern meets with. The question is often asked: How do the men who make designs know what kind of goods the public is going to demand? The designs for next winter's goods are already finished. How does the artist know that the fickle public is not going to discard all that it has admired this year, and go wild over what it now ignores? This year the colors are faint and suggestive; next year they may be kaleidoscopic in brilliancy. This year ladies' shoes run to a point, next year they may be square-toed. Upon an accurate forecast of the public's whims in these matters depends success.

Well, the truth seems to be that sudden or violent as these fluctuations appear, there is really an evolutionary process involved. Each style or fashion has in it the germs of what is to follow, perhaps visible only to experts, but to be discerned. The designer accents the peculiar attributes of a pattern that has found favor one year in order to create his design for the next season. The short life of a design is somewhat surprising. Out of the six or eight hundred patterns made during this last year by the largest calico-mill in the country it is not likely that ten will be called for two years hence. The designs (the word design covering the texture of the material as well as its ornamentation) for every class of goods have to be virtually new every year, and the explanation given for this is hardly flattering to the fair wearers of these pretty mousselines, lawns, organdies, cashmeres, serges, and brocades.

The element of chance thus enters more or less into any manufacture dependent upon changes of fashion. As the styles for summer have to be made in winter, and

those for winter in summer, a manufacturer can not wait to see what the public wants; he has to take his chances. What he has made may or may not meet with favor. If it does not, his whole product will have to be sold at cost or less, to be sent to the confines of civilization. Upon the other hand, fortunes are often made when fashion veers in favor of a particular style of goods.

Some factories, usually very small ones, depend wholly upon novelties. Each year some new trifle comes up upon which the whole establishment is put to work. Holiday goods, the trifles sold by sidewalk pedlers, and many cheap toys are of this class where the ingenuity of the deviser or designer is everything.

THE STORY OF STEEL¹

BY FRANK FAYANT



THIS is the age of steel. Our country, with a production of two-fifths of the iron and coal of the world, stands to-day preëminent among the steel-making nations. The rank of world powers is indicated by their position in the steel industry, and America produces more than England and Germany together. England held her rank as the world's most powerful nation as long as she led her rivals in the steel trade; but, now that both America and Germany lead her in the manufacture of this product, her commercial supremacy is waning. Our commanding position in this industry is the result of our possession of enormous deposits of iron and coal, of the highly productive power of our workingmen, and of our mechanical genius, which has enabled us to reduce the cost of mining, transportation, and manufacture, through the development of labor-saving machinery.

The railroads are the real foundation of the industry. Steel is "prince" or "pauper," accordingly as the railroads make large or small expenditures for the products of the steel mills. When the crops are large and the general business of the country is healthy, the railroads have a large demand for the product they sell, — transportation, — and they make heavy outlays for new rails, locomotives, cars and bridges, and materials for the building of new stations and terminals. During periods

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of reaction in commercial activity, railroad tonnage and earnings fall off, and the railroads postpone all but absolutely necessary purchases until they see a revival of business at hand. Commercial optimism and commercial pessimism spread over the country by turns. In "good times," the railroads expend their surplus earnings for new materials to the point of extravagance; in "bad times," they hoard their funds to the point of parsimony. When earnings are rising, a railroad will spend thousands of dollars for flower gardens at its stations; when earnings are falling, it will refuse to spend money to keep its cars in repair. The steel industry, more than a third of whose product is bought by the railroads, is booming or stagnant, therefore, accordingly as the railroads are lavish or miserly in their expenditures.

The building of new railroads is not the foundation of the rail business, but the maintenance and improvement of those already in operation. There are down in this country about twenty-five million tons of rails. The life of a rail is about ten years; so that, roughly speaking, it may be said that we need from two million to two million five hundred thousand tons of rails a year for renewals. Railroad construction grows heavier year after year. In this country we believe in big trainloads, because they reduce operating costs. Instead of fifty-ton locomotives, we use one-hundred-ton locomotives; for twenty-ton cars we have substituted fifty-ton cars.

The increasing weight of the rolling stock has made necessary the increase in the weight of rails, and, instead of forty-five-pound and sixty-pound rails, we now are laying rails of eighty-five and ninety pounds to the yard. Railroads like the Southern Pacific, the Union Pacific, and the Northern Pacific have been rebuilt in the past few years. In the East, roads have not only been rebuilt,

but single-track roads have been double-tracked, while some roads have increased their trackage to three, four, or five tracks, in heavy traffic territory. All this betterment work gives tonnage to the steel mills.

In 1875 we first passed the English pig-iron production and turned out twice as much as Germany. Two years later, President Harrison said we were at the height of our prosperity. The reaction came the next year, the development of the steel industry in this country was momentarily checked, and England took again, but for the last time, her ancient position as the world's greatest iron-producer. But, with this country's indorsement of the gold standard, in 1896, there began another period of prosperity, the most remarkable in the world's history. The American pig-iron production increased at a tremendous rate. In 1896 our output was less than nine million tons. Four years later it approached fourteen million tons, and in the next year, the year of J. Pierpont Morgan's consolidation of more than half the steel mills of the country into the United States Steel Corporation, it nearly reached the sixteen-million-ton mark, or, for the first time, as much as England and Germany combined.

It was not so much the overproduction of iron as the overspeculation in securities that caused the setback of 1903 and 1904 and resulted in a decline in the pig-iron output from eighteen million tons, in 1903, to sixteen million five hundred thousand tons, in 1904. The halt in the country's industrial progress was again only momentary. In the summer of 1904 confidence returned, after the investing public had recovered from its attack of acute financial indigestion, and the steel mills were soon working to the limit of their capacity. In 1905 the pig-iron output reached the enormous total of twenty-

two million tons, and by the end of January our blast-furnace capacity became nearly thirty million tons a year, or not far from one hundred thousand tons a day.

From the iron mines at the head of the Great Lakes to the blast furnaces at the meeting of the Allegheny and the Monongahela it is more than a thousand miles by lake and rail, but in the Pittsburg district is a raw material almost as important to the steel industry as iron ore itself, and that is coal. From soft coal is made coke, and for every ton of ore that goes into the blast furnace there is added half a ton of coke. Of the twenty-five to thirty million tons of coke produced in this country in a year, more than half comes from the thirty thousand coke ovens in the Connellsville region, in Western Pennsylvania.

The iron industry located itself naturally around Pittsburg, because it was the center of the bituminous coal country, and the early iron ore came from the Cornwall mines in Pennsylvania. We have records of ore from these famous mines as early as 1740, and in 1786 the legislature of Pennsylvania lent a Mr. Humphries £300 for five years to further his project of making steel "as good as in England."

More than a hundred years after the opening of the Cornwall mines, iron was found at the head of the Great Lakes, a thousand miles away. The blast furnaces and rolling mills could not move up to the Lake Superior region, and, even had they done so, they would have left the coal of Pennsylvania behind. The ore had to be brought down the lakes to the coal regions. The lake ore seemed, at first, a long way off, and, during the ten years intervening between the discovery of the Cleveland mines and the Civil War, the shipments never reached seventy thousand tons in a year. Not until after the introduction from England of the Bessemer steel-con-



After the painting by KARL BIESE

THE BESSEMER PROCESS

verter, at the end of the war, the lake ore began to be brought down in any quantity. By 1870 about one-fourth of the iron ore of the country was being taken out of the Lake Superior mines.

The cheapening of the cost of transporting ore from the mines at the head of the lakes to the blast furnaces, a thousand miles away in Pittsburg, is one of the factors that has given this country preëminence in the steel industry. When we began rolling Bessemer rails, in the late 60's, it cost more to carry ore from Marquette to Ohio than the ore is now sold for. In the old days the ore was mined and loaded on cars by human labor, hauled to the docks in small trainloads, put aboard one-thousand-ton sailing vessels by means of wheelbarrows, and unloaded again by human labor at Ohio ports. Before the first "Soo" canal was dug, the ore had to be rehandled at the Portage, between Lake Superior and Lake Huron, and taken across on a railway. In the first years of the lake ore trade, the ore at the Portage was hauled across on a strap railroad in little cars drawn by a horse.

As late as 1866 the freight rate on ore from Marquette to Ohio ports varied from \$3 to \$6.25 a ton. Now the rate is seventy-five cents a ton or less. Power-driven shovels and loading and unloading machines, and big cars, locomotives, and ships have revolutionized the lake transportation of ore. At the mines in Michigan and Minnesota, and along the shores of Lake Superior, a fifty-ton steel car is loaded in three minutes in eight thrusts of a giant steam shovel. The long ore trains, carrying a thousand tons of ore to the train, are hauled to the marvelous ore docks at Duluth, Two Harbors, Superior, Ashland, Escanaba, and Marquette by one-hundred-and-thirty-ton engines. There the cars empty through drop bottoms into steel steamships. The "Au-

gustus B. Wolvin," one of the lake ore carriers, recently took on a cargo of ten thousand two hundred and forty-five tons of ore in eighty-nine minutes. Nine thousand tons of this cargo were put aboard in thirty-four minutes. At the Ohio ports — Cleveland, Conneaut, Ashtabula, Buffalo, and half a dozen others — the ore is transferred by giant unloading machines, carrying ten tons at a stroke, from the ship to ore trains, to be hauled to Pittsburg.

In the course of half a century the shipments of ore from the Lake Superior region have reached the total of three hundred million tons, but there are still many hundreds of millions of tons of ore in the mines. The great mines, now, are those on the Mesaba Range, in Minnesota, which produce more than half the iron ore of the country. The mines in Michigan and Wisconsin produce the greater part of the remainder. A considerable amount of ore is still taken out of the old mines in the North Atlantic States, while the Alabama mines have recently brought the South into prominence in the steel industry. The amount of ore in the Mesaba Range can only be guessed at. A single corporation not engaged in the steel business — the Great Northern Railway — owns ore lands on the range estimated to contain half a billion tons of ore. The consumption of iron in this country is increasing so rapidly that, within a very few years, we shall need fifty millions ton of ore a year. It is probable that in the next twenty years we shall need more than a billion tons of iron ore.

The revolution in steel-making, forty years ago, which made it profitable for us to develop the lake mines, even with the meager means of transporting the ore to Pittsburg, came with Bessemer's invention of the converter. In the Bessemer furnace, cast iron is converted into steel, in the course of ten to fifteen minutes, by blowing air

through the molten iron. The oxygen combines with the carbon, silicon, manganese, and other foreign substances in the iron, and the violent combustion raises the temperature to above three thousand two hundred degrees. The Bessemer converter has reduced the cost of steel from six or seven cents a pound to less than a cent a pound, and it has thus multiplied its uses many times. Our mills are now turning out sixty thousand tons of steel a day, or six times as much as was produced in the entire year, 1864, when the Bessemer process was introduced. Very recently the open-hearth process of making steel has come into favor, because in this much slower process — it takes hours instead of minutes — a better steel is made. Guns and armor plate are made from open-hearth steel, and recently southern mills have been rolling rails from it. In the past fifteen years the production of open-hearth steel in this country has increased twelve-fold, while the output of Bessemer steel has trebled, and it is likely that, within a few years, the greater part of the steel made here will be open-hearth.

The same mechanical and administrative genius that has reduced the cost of mining and transporting iron ore has reduced all the costs of steel manufacturing in American mills, until now, despite our very high cost for labor, — \$10 a day being no uncommon wage in the Pittsburgh mills, — we can ship our steel products across the Atlantic and sell them in England in competition with the home mills. We have reduced to a minimum the manual labor in steel-making. Automatic and semi-automatic machinery, driven sometimes by steam and sometimes by electricity, handles the materials of the steel industry from the time they are first taken out of the earth until they are shipped to the consumer from the mills.

The great increase in the crops, the mineral production, and the gold supply, attended, as it was, by the great reduction in the cost of making steel rails, opened a period of railroad building such as the country has never seen since. In 1882 the St. Paul was built to Omaha, the Burlington to Denver, the Nickel Plate from Buffalo to Chicago, and the Lackawanna from Binghamton to Buffalo. Jay Gould was taking up the country west of the Mississippi, while Commodore Vanderbilt was building lines in the East. Up in the Northwest "Jim" Hill was planning to push his new road westward to the coast.

From '78 to '83, the railroads in the country increased from eighty-two thousand to one hundred and twenty-one thousand miles; railroad earnings increased from \$490,000,000 to \$764,000,000; and railroad dividends, from \$53,000,000 to \$101,000,000. The effect of this boom on the steel industry was that the pig-iron output doubled in four years, from two million three hundred thousand tons, in '78, to four million six hundred thousand tons, in '82; the steel-rail output increased from five hundred thousand tons to one million three hundred thousand tons; the shipments of ore through the lakes increased from one million one hundred thousand tons to two million nine hundred thousand tons. With the increased demand for steel products, pig iron rose from \$16.50 to \$41 a ton, and steel rails rose from \$41 to \$85 a ton. The American mills could not supply the demand and in three years we imported half a million tons from England, and, with the wave of extreme optimism that spread over the country, with increased activity in all lines of industry, higher wages, and higher prices, prices of securities on the stock exchange, the barometer of business, rose one hundred per cent from the beginning of '78 to the winter of '80-'81.

The setback in the steel business, in 1904, became more a matter of public concern than it ever had been before in the history of the country, because, in the industrial boom that halted in 1902, hundreds of millions of dollars of securities of new companies were sold to investors throughout the land. The boldest of these flotations was that of the Steel Trust, by J. P. Morgan. A dozen steel "trustlets," or combinations of small steel companies, were merged with the Carnegie company into a corporation capitalized at \$1,400,000,000, of which \$500,000,000 went to the owners of the Carnegie works. The billion dollars of stock — ten million shares — became distributed among sixty thousand investors and twenty-seven thousand employees, at prices which made many new millionaires out of the original owners of the companies merged into the trust.

While the railroads are the big consumers of steel, the consumption of the metal for other uses is growing at a very rapid rate. The most striking development in the industry, in the past few years, is the demand for structural steel. The American "skyscraper," the growth of the past fifteen years, has opened a new chapter in steel-making. All large commercial buildings and hotels are now built on the steel-skeleton plan, and it is as simple a matter to erect an office building of thirty stories as one of five. The engineer who draws the plan for a thirty-story, steel-frame building calculates mathematically how strong his skeleton must be to support the brick and stone walls, the floors, and all they are to carry, and, when he turns his plan over to the builders, he has estimated the exact weight of structural steel in the building.

It is difficult to imagine what great commercial towns like New York would do without the electric car and the telephone, which are the means of intramural transporta-

tion and communication; it is even more difficult to imagine what a water-circumscribed city like New York would do without steel-frame buildings. It is conceivable that, within a few years, the average height of office buildings in the financial quarter of New York will be fifteen stories. There are half a hundred buildings in New York now from fifteen to thirty stories high. With a fifteen-story average, the housing capacity will be three times what it would be with a five-story average. A typical New York office building, like the Broad Exchange Building, houses three thousand people, and the elevators, eighteen in number, carry from fifty thousand to seventy-five thousand passengers a day. Without the modern elevator the "skyscraper" would be useless.

In the building of the Broad Exchange eleven thousand tons of steel were used; in the Trinity Building, fifteen thousand tons of steel. The New York builders, when their work is not halted by strikes of the building-trade workers, use from seventy-five thousand to one hundred thousand tons of steel a year. Chicago had in sight, in one year, new buildings which used fifty thousand tons, of which ten thousand tons were used in the new County Building. The new Union Bank in Pittsburg took eight thousand tons. The amount of structural steel now being used by the railroads is enormous. The Pennsylvania ordered thirty-five thousand tons for its new terminal in the heart of New York, while the New York Central will require twenty thousand tons for its new terminal. Not only above ground, but also below ground, the use of structural steel in large cities is growing rapidly. One of the Hudson River tunnels will need seventy-three thousand tons, or as much as the entire country used thirty-five years ago. As much was used in the building of the New York underground railroad. The use in

bridge-building is also growing rapidly. American steel makers are shipping bridge material all over the world.

Among the varied new uses for steel, the wire mills have found a very large share. The wire-nail industry is a big one in itself. Our output of wire nails is more than twelve million kegs a year, or twenty times what it was two decades ago. Still more remarkable is the increase in the output of fence wire. Many American millionaires have made their fortunes out of barbed wire. The fence wire output was three hundred and fifty thousand tons in 1897, or eight times what it was only five years before.

The astonishing growth of the American steel industry could not have been possible without men of energy, ambition, and genius to blaze new trails. All the natural resources of the land would never have been developed at such an astounding rate had not this country been prolific in producing men with a genius for grappling with material problems.

It has been full of rich opportunities. No other industry has paid such lavish rewards to men who have invented new processes, or cheapened the cost of manufacture, or who possessed the genius for organization. Hundreds of men have amassed great fortunes in the smoke of Pittsburg, while thousands are earning the highest wages paid to workingmen anywhere in the world. And the opportunities to-day are greater than ever before. The American steel industry never before was in more need of men who can do things, or better able to pay for them.

“A young man who intends to go into the steel business must be prepared to find conditions there different from those of many other lines of business that he might enter,” said a prominent steel man, recently. “It is a business that must be learned from the ground up. A new man

can not 'get familiar with the line' in a few weeks or months. His equipment should include a knowledge of the very basic elements of the manufacture of iron and steel. To master the subject thoroughly, a man must have some specialized training in the chemistry of the subject, and then should enter the shops and begin his intimate acquaintance with the actual processes of production.

"Pittsburg and other steel centers are full of young men of excellent education and special training who are working in the shops and foundries from early in the morning until late at night, at very meager wages, — seemingly a useless and unnecessary hardship. But they are learning the actual processes and preparing themselves for preëminence. The large companies take on a lot of young men every year, preferably college men of technical bent and training, putting them, in many cases, on the footing of 'apprentices,' and giving them what is, in effect, a practical course of instruction in the business. Of course, a certain number of these men fall by the way-side or drift away. The companies expect this, and aim to gain to their service out of the whole number a few good men who will be worthy of being advanced to the highest places.

"Advancement comes rapidly in some cases. And the rewards are great, not only to the executive heads, but to the workmen, as well, who have become skilled. Out in the mill towns of western Pennsylvania a visitor sees many comfortable, and, in some cases, quite pretentious houses, and is astonished to find that they are the homes of workers in the steel mills. An expert roller can easily make twenty dollars a day, — a yearly wage as great as that of the general manager of many a smaller industrial concern."

THE ARMOURS' PACKING INDUSTRY¹

By ARTHUR GRAYDON



AS the jolting 'bus which rumbles through the streets of "Packingtown," pounding back and forth between the doors of offices and the arched stone gateway that commands entry to this stronghold of the packer, skirted the reaches of stock pens, the man who had halted on the narrow planking marking the pedestrian way pointed to the trim figure of an aggressive-faced, keen-eyed passenger, youthful appearing despite his forty-four years, who was seated well forward in the vehicle.

"That man could out-trade his father," was his terse comment. "He's got the 'stuff' in him that 'does things.'"

And this, colloquially put, is the Union Stock Yards' estimate of J. Ogden Armour, son of the late Philip D. Armour and head of the great establishment, with its present business volume of \$200,000,000 annually, which stands as the creation of that giant of business genius.

That this estimate of his ability and accomplishment has come to J. Ogden Armour is due in great part to the commercial training that came from father to son — and its supplementary force since acquired, business system of the modern industrial era. For what the individualism and innate business genius of Philip D. Armour created has been extended to broader fields than its aggressive founder ever foresaw, through organization and business methods, calculated and sure, worked out by the science-trained mind of the son.

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Not that the elder Armour was given to doing business by chance. For, having fought his way by sheer force of will, wonderful capacity for work, and superior keenness of foresight through that period of business disorder and go-as-you-please that marked the early days of the West, Philip D. Armour in his later years followed carefully the road of systematic business procedure.

“In business, chance or accident never accomplished anything lasting,” asserted this industry builder in an extended interview given me five years before his death. “At least, I never accomplished anything worth while that way. In these days it is system and careful, well-planned business method that accomplish things.”

Nevertheless, to men of the elder Armour's generation business organization was a personal attribute, not the machine-like regulator of to-day. Between the early-day methods of the father and the present-day methods of the son extend the yesterday and the to-day of business procedure.

The name of Philip D. Armour rings synonymously with the day of the “long-horn” and the old-time cowboy. It conjures before the eye the countless herds of the Western grazing reaches, and it strikes into the ear the thunder of the hoofs of rushing cattle, drowning the roar of the puffing locomotives which first threaded the Western prairies. It stands, too, for those early days of the packing industry when profits were great and waste tremendous. It leads to the threshold of this day of small profits and great economies, of great business volume and the utilization of every portion of raw material that comes to the hand of the packer.

From the day when, stirred by the tales of gold, Philip Armour flung down the pitch-fork on the farm near Stockbridge, New York, where he was born, packed his

satchel and started West, there came into evidence that tremendous physical force and strength of will which characterized the elder Armour's every act through the years of business up-building. That was the day of the growing, untamed West, — a youthful giant leaping to maturity and wilful in the strength and power which had not yet been measured. It was the period when brutal capacity for effort and square-jawed tenacity were among the chief elements required to draw forth the wealth of result lying dormant in the countless opportunities at hand. It was the day when adventures were initiated which later became well-grounded business enterprises. It was the glorious day of profit and waste. Men were young and the West was young and results were wrought by the strength and endurance of youth. The beggar of to-day was fortune's favorite on the morrow. In this school Philip D. Armour won his first real business experience.

Returned to Stockbridge with profits of \$4000 made in the California gold fields, again the call of the West — the pondering over the limitless field of supply in this land of great distances and of the need of that supply in the congesting population centers of the East — brought the senior Armour to Milwaukee, where his partnership in the early '60's with John Plankinton and the building of a pork-packing concern marked his first entry into the packing field.

In the greater portion of that yesterday Philip D. Armour *was* the business. He kept every detail at his fingers' ends. His hands held and guided every thread of the warp and woof in his loom of business activity. He created all and shouldered all. Individual genius, tremendous capacity for work, force of will, and personal disposal of every phase of business controlled under the

more or less hit-or-miss methods of the day. Even though pressure of business volume compelled alterations of these methods in the last four years of his life, the senior Armour held always the conviction: "I am the business."

The individualism, the one-man detail-bearing of the time, is illustrated in the one point of rivalry between "Phil" Armour and John Plankinton: who should reach the plant earliest. "And many times," said Mr. Armour in recalling those days, "one or the other was at the plant at half-past one o'clock in the morning. It was easy for us to get up early, for we were products of the farm, where sunrise is regarded at certain seasons as falling too late to serve as an alarm-clock. I was literally an 'early bird,' and that fact aided greatly in building successfully. For many a choice worm falls to the early bird in business."

The evolution of the Armour packing business was the work of one man just as much as its conduct to-day is the work of an organization. Every step forward was made on Armour's initiative.

With the establishment of the Union Stock Yards in Chicago in 1864 "Phil" Armour took vigorous hold of the conditions that led to the real upbuilding of packing as an industry. He studied every condition carefully, minutely. His marvelous foresight was focused on the problem which every section of the East encounters in securing its food supply. And these were the central ideas with which he wrestled and from which his every plan radiated:

- (1) To supply eastern scarcity with western abundance;
- (2) to "keep close to the critter," as he often put it, at the buying end of the business, and close to the consumer at the selling end;
- (3) to do this with the *least lost motion* between these two points. From these ideas came the creation of the industry — and still come the rules of

business that are all-powerful to-day if success is to be won.

First came the "ice-box on wheels," which enabled the shipment of fresh meats over long distances, saving the freight on the one-half "waste" of the animal — and incidentally bringing this "waste" together at one spot in so large a volume that the great loss became apparent and a use for it was found.

So the "by-product" was the second step: the packers were forced to get a profit out of the waste in order to lower prices on the fresh meats to meet local prices.

With the refrigerator car and low prices, Armour was able to capture the big eastern markets — to carry the supply of the West to the demand of the East.

And the work was all his own. His personal nerve, resourcefulness, courage, vigilance, endurance and capacity for work, won out for the founder in the early days. He handled personally every detail of the business. He was chief buyer, head bookkeeper, salesmanager, general manager of everything. He *was* the business. He watched every purchase and every preparation for shipment. He knew his workmen by name and he found time to give personal inspection to their work. It was "Bill" and "Jim" with the railway men who handled the shunting of the cars from the sidings and sandwiched them into the trains which carried the then limited Armour output to its markets. His hand on the pulse of supply and demand in the territory which he could reach brought the profitable results and the trade progress.

The very strength of this personality, of this one-man motive power eventually brought its own eclipse. Under conditions of leaping growth the elder Armour's methods perforce passed into yesterday and the system and procedure of to-day came into vogue.

The details of the business became too great for the gigantic brain which had conceived it. That brain had laid the foundation, had given the momentum. But one-man control now was not only a mental impossibility, it was physically impossible even for a man with Mr. Armour's prodigious capacity for work. *The packing industry had been transformed from a local enterprise into an international supply house.* That demanded the entry of new ideas, of new modes of handling business, of new men who could aid in taking care of this increasing volume of trade. And, difficult as it was for a daring, fiercely-aggressive man who had constructed every detail of his business, the senior Armour met the situation fairly and accepted the inevitable.

Yet the new methods did not come into full sway until the full control of the business was assumed by the younger generation in the late '90's. The chart of the elder Armour's day's work shows that really no attempt at system was made in his personal routine. The details of the business were, of course, conducted on the most approved methods of that day; but in its control it was not handled as an organization but as Philip D. Armour's business. He saw with the eyes of a man, heard with the ears of a man, secured his impressions through the senses of a man.

To-day the younger Armour sees more, hears more, absorbs more, determines more, than his father did thirty years ago. But he does it with the eyes and ears and senses of organization — and does more and better because of organization.

In the to-day of the son, J. Ogden Armour is the ultimately responsible head, who, leaving masses of detail to others trained to care for this work, maps the course and directs the monster machine of business. He utilizes

every safeguard which system in business contributes, brings to his service every attainable improvement, mechanical and clerical, which tends to greater perfection and to quickening the capacity for accomplishment and extension. In short, the Then of Philip D. Armour was a day of individualism, of detail-bearing, of one-man motive power; the Now of J. Ogden Armour is the season of individual initiative supplemented by system, by order and method, by carefully-planned business organization, all backed by many-brained motive power. And between the then and now lies the lesson.

Young Armour himself first sat at a clerk's desk, when he arrived at the office from Yale. Then he was sent to the "yards" and there learned first-hand the problems of the pens and the slaughter pits and the by-product field. He next studied the preparation of hog products; and then — for this end of the business which had been the chief factor in its making was intended for his special sphere—his education began in the fresh meat department. His knowledge of selling methods came later during a period at the branch house in New York City. Then he met practical experience in the handling of the private-car lines. The executive field was the final step upwards.

J. Ogden Armour succeeded to the ownership and sole control of the great business, but with it he coupled final systematization — effected complete introduction of the most modern, time-saving business methods and the extension of a business-transacting organization which is enabled to meet every demand swiftly and surely.

Philip D. Armour was a man of action, of dominating individuality, a detail builder. For the greater part of his life, he insisted on handling personally every item of business affairs, until increasing trade demands proved too overwhelming even for his gigantic brain and tre-

mendous physical powers. The father's successor is the true executive. He deals with the summarized results of details. Through this information he is enabled to map the course that has to do with the world's food supply. He has the knowledge of the needs of the globe at his finger-tips. The father was the product of a day when the limited field of the local market formed the radius of action; the son deals daily with the food supply problem of the nations. He deals with a collection of units, not expending effort or time over each individual unit that goes to make up the whole. He is a type of what may be called the "card-indexed era" of business.

Business with J. Ogden Armour is business to the exclusion of all else. His business day is nearly as long as his father's — and if less strenuous, probably more productive. For, it is orderly — systematic — making full use of every minute. At the desk in his private office center the lines that tell of the conditions of a world's food supply and food demand — from Calcutta in the far East, Cape Town at the toe of Africa, the Argentines in the South, down to the segment of a state of the Atlantic coast or the Mississippi valley. He plans daily the morrow's campaign, for each day brings altered conditions which demand, if success is to continue, the accommodation of business effort to these signal posts.

Here, too, attention is given to the multitude of other interests in which the Armour influence commands — the leather corporation through which this industrial captain is credited with controlling this commodity; the Armour elevators that rear their bulk throughout the country and form the harbors of that ebb and flow of grain that force the "bull" and the "bear" of the cereal markets of the globe to heed and control their actions accordingly; the private-car lines whose yellow carriers shuttle over the

steel highways from California to Maine and from Canada to Florida; the affairs of the railway lines in which Armour millions have clinched their interest.

One of the veteran department heads of the Armour house made this statement to me, adding it to the estimate uttered by the man on the plank walk at the "yards":

"J. Ogden Armour is just as great a money-maker as his father, if any one chooses to measure business capacity by that standard. The elder Armour was essentially a merchandizer. And he was a master in that field. His successor, having recourse to every instrument of modern business method and system, has continued that record. He has, too, the genius and ability to carry on his operations in a constantly widening field. System is the complement that has made this success possible."

And, modest, disliking to talk of himself or his success, J. Ogden Armour has thus summed up the elements which have produced the results of the present!

"At the start it was the genius of the builder. Success lay in individuality and foresight and method. It lay in the ability to grasp opportunities as they presented themselves; to build the foundation big enough and to construct an organization broad enough to keep pace with the demands of the ensuing years. As for the balance, there must constantly be adherence to system.

"Following this rule, the way to success then lies in doing thoroughly what there is to be done, in taking care of each day's business promptly, and in being able to look around three corners financially and have money when it's needed."

And who shall say that he is not fully qualified to speak?

THE STORY OF OIL¹

By HAROLD J. HOWLAND

IN the afternoon of a dull February day I stood with a companion in the center of a level space of farm land in southeastern Illinois. A heavy mist, hesitating on the border line between fog and rain, subdued the landscape to a gray monotone, its only bright spot the ruddy flare of a natural-gas flame in a distant farm-yard. From a shadowy group of low buildings across a field the measured beat of a giant heart punctuated the stillness, its sound reproduced in diminishing emphasis from points farther and farther away through the dusk.

A hundred yards before us rose a tall mast, flanked by a small shanty, a wheeled boiler, and an engine with a simplified steamboat walking-beam. At the foot of the mast four men stood idly about watching another who seemed engaged in mysterious rites. The center of their interest and ours was a new oil well. The well had been sunk until the "pay sand" was reached, and the busy little man was completing his preparations to "shoot" it.

Oil occurs in the crevices of certain kinds of porous rock from three hundred to two thousand feet below the surface. An oil well is a hole in the ground, a foot in diameter at the top, six inches at the bottom, tapping the rock containing the oil and affording an outlet through which the oil may flow, or, more usually, be pumped, to the surface. The boring of the well is done

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by a steel drill, measuring, with its fittings, thirty feet in length, and weighing from half a ton to a ton and a half. This drill is continually lifted and dropped in the hole, the force of its impact pulverizing the rock into sand. At intervals the debris is removed by a sand-pump, which is not a pump at all, but a tube with a valve at the bottom, which is lowered into the hole and drawn out, bringing the sand with it.

When the oil rock is reached, sometimes the pressure is sufficient to bring the oil to the surface with a rush, and to keep it flowing indefinitely. Generally, however, the oil either does not flow at all or flows only in small quantity. In either case the well is "shot." By exploding a charge of nitro-glycerine at the bottom of the hole the surrounding rock is broken up and the flow of the oil stimulated.

The busy little man was the "shooter," engaged in lowering into the well two hundred quarts of "glycerine," contained in ten cylindrical tin shells. The premature explosion of only a small fraction of the thick yellow fluid which he was pouring so calmly into the shells would have sufficed to eliminate not only him but most of the surrounding apparatus. By mutual consent, then, my companion and I viewed proceedings from our remote point of vantage. His experience of twenty years in the oil fields led me to accept without question his estimate of a satisfactory distance for observation.

After a couple of hours of steady work the ten shells were safely in position, and the well filled for a couple of hundred feet above them with water to "tamp" the charge. The shooter, ready with his "jack squib," a long slender shell filled with a small charge of "glycerine," a fulminating cap, and a slow-burning fuse, lighted the fuse and started the squib on its downward course to

arouse the sleeping energies of those two hundred quarts of yellow earthquake essence.

Then even the shooter forsook his nonchalant calm and joined us without delay in our retirement. In a moment a heavy shock accompanied by a dull, muffled report stirred the earth beneath us. From the well a jet of muddy fluid leaped a hundred feet into the air, was swept away by the wind, and fell in a scattered shower, the sound of its fall accented by the thud of chunks of rock hurled out with a force that plunged them bodily into the earth.

Rapidly the jet died down; and the drillers went briskly to work to finish lining the well with iron piping, and to connect it up to a receiving tank. In a few hours, if it proved in any degree a flowing well, oil from it would be accumulating, and the well would have begun to pay for its drilling. In another day its pump would be installed.

By the improved methods in use in the newer oil fields a single engine serves to supply the power for the pumping of from a dozen to thirty wells scattered over a farm of perhaps a hundred or two hundred acres. The pump at the well is the extreme of simplicity: below ground a tube running nearly to the bottom of the well, with a valve at its lower end; within it a pump-rod working up and down; above ground a framework in which works the "jack," a combination of two levers joined together and serving to transform the horizontal pull of the rod coming from the engine into a vertical pull on the pump-rod. The wells are connected to the engine in pairs, so that the up-stroke in one coincides with the down stroke in another, affording another source of economy of power. The saving of the new method over the old is instantly apparent. The new has one engine, run by the gas from

the wells themselves, while the old had a central boiler heated by coal, and a pumping engine at each well, to say nothing of the network of steam-pipes leading to the widely separated pumps.

This scene in the Illinois field shows the first point at which the Standard Oil Company comes into contact with the petroleum, and illustrates by contrast an interesting fact in connection with its operations. The farm on which the well described was located belonged to the Standard; the wells on it were drilled and operated by the Standard; the oil would be drawn off into Standard pipe lines, refined in a Standard refinery, shipped in Standard steamers, cars, and wagons, and probably sold by Standard agents to the retail dealers. But it should be noted that the Standard is not primarily or even largely engaged in the production of petroleum. In 1905 it produced less than twelve per cent of the crude oil in the United States.

The Standard Oil Company was at first engaged merely in the refining of oil. The transportation of crude oil by pipe lines and tank cars was undertaken, in the natural course of events, to facilitate the control of the supply of the raw material. The extension into all parts of the world of the selling of the refined products, and the distribution of these products by its own carriers direct to the small dealers and sometimes to the consumers, were an inevitable outcome of the need for a market for its enormous output, and its underlying principle of eliminating, wherever possible, the profit to the middleman.

The production of oil has always been in the hands of many individuals or small companies. In the Illinois field alone, where production was begun hardly two years ago, there are one hundred and eighty-five producing companies. In that field the Standard owns about one-

third of the wells and produces about one-fifth of the oil. The statement of the Standard as to its purpose in entering the producing business is that it did so "in order to increase the supply of crude oil and to supplement the efforts of other producers in developing such difficult fields as West Virginia, where the expenses and the risks are especially great."

Aside from the small proportion of cases, therefore, in which the Company is itself the producer, it is when the oil is above ground and stored in the producer's tanks that the Standard first becomes interested in it.

As we drove back over (or rather through) the unspeakable roads of southern Illinois, fetlock deep with the stickiest clay mud I ever saw, a lone figure tramping cheerfully through the drizzle appeared, to typify this phase. A ten-foot pole in his hand and a flat leather case hanging at his side proclaimed him the gauger, the point of contact between producer and Standard. As he turned in from the road to the group of buildings indicating the center of an oil farm, we followed. Accompanied by the producer's pumper, who met him, he climbed to the top of the rough house covering the four-hundred-and-fifty-barrel tanks which receive the oil from the dozen wells on the farm.

Two tanks were full and ready for him. With an oblong brass instrument (known politely as the "thief") which he took from his leather case and let down to the bottom of the tank, he secured a sample of oil from the lowest layer. Pouring it out over his palm, he determined that the oil was of good quality, free from water and sediment. With his pole he measured the depth of the oil, recorded the figure on a blank known as a "run-ticket," and opened the valve which admits the oil to the gathering line of the Standard's pipe-line system.

The oil in the tank was now the property of the Standard, in accordance with a contract made with the producer when his first well began to flow. The next morning the gauger would visit the farm again, measure the depth of the oil remaining in the tank, record it on his run-ticket and shut and lock the valve. At night, when he returned to the office, the figures on the run-ticket would be telegraphed (the Standard has its own telegraph system wherever its pipe lines run) to the central office of the company for the Illinois field, the quantity of oil run would be figured out from his data, and the resulting amount placed to the credit of the producer.

As the producing company is very seldom the actual owner of the farm, the credit is divided, in the proportion fixed by the terms of the lease, between the producing company and the farm owner. The owner's royalty varies in different cases from one-sixth to one-quarter.

At any time within two months the producer (and the same is true of the farm owner) may elect to receive his pay for the oil so credited, at the market price ruling on the day he so elects. When he decides to accept payment, a check is sent him immediately; it may be within twenty-four hours from the time his oil is run, it may be sixty days later. If at the end of two months he has not requested payment, a check is sent him at the price ruling on the first day of the third month. The Standard provides the producer a market for his oil, taking it from him at the well, and giving him instant payment, if he wishes, at the market price, or the privilege of speculating on the price for two months.

In a field like Illinois the Standard provides the sole market for the producer. So the producer demands of the Standard that he be "taken care of," that his entire production be drawn off day by day, or as fast as his tanks

are filled; and for this he has a very good reason. The business of producing oil is a peculiar one, from its uncertainty. As in every other kind of mining, there is no way of knowing the extent of the available supply. As a vein of ore often "pinches out" with disconcerting suddenness, so an oil field may run dry. But the owner of a coal mine or a gold mine knows that, whatever the supply of the mineral in his property may be, it is there and will stay there till he gets it out.

In an oil field, however, all the wells in a given section are drawing from one pool. If a producer stops drawing on the supply, his neighbor may get more than his share. Unlike the solid mineral, his oil may run away, and probably will, unless he makes every effort, and makes it continuously, to give it an outlet through his wells. This peculiarity of the supply leads to an interesting course of procedure in an oil field. Each producer drills first the wells nearest his neighbors' lines. These will draw, not only from the supply of oil beneath his own land, but from their portions of the pool. The wells in the center of his farm can wait; they will tap only his own supply of oil, not so likely to be drawn off by the competitor. If he can drill faster and pump faster, his share of the common fund in the pool below will be the greater.

A visit to another part of the field the next day showed how the Standard was doing its best to "take care of" the producer. On either side of the road, as we drove toward the main pipe-line station, a company of giant red cheese-boxes stretched in regular array over an area half a mile square. Each cheese-box, an iron tank ninety feet in diameter and thirty feet high, holds thirty-five thousand barrels of crude oil, bought from the producer, and paid for at a cost of nearly twenty thousand dollars. The sixty-one tanks on this "tank farm" contain over two

million barrels of oil, representing an investment of a million and a quarter dollars.

On the far corner of the "farm" are eight or ten new tanks, in all stages of construction — one with its floor half laid, a second with the first layer of side-plates just being riveted into position, two others, side by side, being raced to completion by rival crews. The last of the group, with its wooden roof only half covered with its iron coat, is already two-thirds full of oil. For the producer cannot wait; he must be "taken care of."

Over each unfinished tank swarm gangs of men working with a will that brings one of these cheese-boxes to completion in ten days, and adds five thirty-five-thousand-barrel units to the farm's storage capacity every week. But this is only a new field; the stock of oil has been accumulated in less than eight months. In the Kansas field the stock of crude oil in storage amounts to twenty-one million barrels, bought and paid for, meaning an investment of between twelve and thirteen million dollars.

Beyond the tank farm lie two neat, square buildings of gray concrete, the tall iron stacks of the smaller proclaiming the pumping station. Here is the outlet of the oil field, the gate through which the petroleum from over three thousand wells pours out to the world. Within the large building a great triple expansion pump is drawing the oil from the nearest tanks of the "farm" and pushing it on through the two lines of pipe, one eight inches in diameter, the other twelve, stretching away toward the east.

Forty miles away another pumping station, similar in every detail, will take the oil, made sluggish by the friction of its long journey, and give it a fresh impulse for its onward journey. Two hundred miles from the start the oil, three times refreshed in its course, will join a greater

stream moving steadily from the west to the seaboard. Thirty-five thousand barrels a day this great pump is pouring out; in a few months two companion pumps, somewhat smaller, but by no means babies, will join in the work; for the producer must be "taken care of."

Converging to this gateway from all parts of the field, five hundred miles of pipe line, varying in size from two-inch at the wells to eight-inch at the outlet, gather the oil from the producers' tanks. And all these lines, with the two hundred miles of line (double most of the way) affording the outlet to the East, have been built in eight months. So in each field — Pennsylvania, West Virginia, Illinois, California, Kansas, Ohio — miles on miles of gathering lines are bringing in the flood of oil to the gateways to be poured out through the trunk lines to the refineries on the seacoast, and the lake shores, and at vantage points for railway and river transportation. Eight thousand miles of trunk pipe lines the Standard has, fed by seventy-five thousand miles of gathering lines. By these means, and by means of hundreds of storage tanks on the "farms" in every field, the producer is being "taken care of."

The center of the Standard system is the refinery. On one side of it stretches out the network of pipe line bringing in from thousands of wells the crude oil; on the other, a distributing system of even greater extent carries to the markets of the world the refined products. Refining was the first business of the Standard; it is still its principal business. In the year 1906 the Standard produced 23,000,000 barrels of refined oil, a quantity sufficient to last a family using five gallons a week nearly four hundred and fifty thousand years. If that one year's product of refined oil were to be stored in a single tank of the diameter of the storage tanks in the oil fields, the tank

would need to be fifteen miles high. In addition, the Standard manufactured nearly six million barrels of naphthas of various grades, millions of barrels of lubricating oils, and millions of pounds of paraffin wax and candles.

One refinery is much like another; they differ only in details of arrangement, of no significance to the layman. Refining has little of the quality of picturesqueness that attends other manufacturing processes. Steel-making and glass-blowing, for instance, have spectacular aspects. The making of a locomotive, or an ax, or even a pin, is carried on before your eyes, and with a fascinating exhibition of ponderous strength and delicate precision.

From the very nature of the material, however (a fluid, constantly impelled to flow, and spread, and seek escape from its captivity), the refining of oil must be carried on, so to say, behind closed doors. At only two points in its course from crude to refined is the oil visible, and each time it is only going from one confinement to another, a captive on parole. So the processes must be viewed with the mind's eye, the observation gaining, perhaps, a little fascination of its own from its very limitation.

Crude petroleum is a mixture of an indefinite number of compounds of hydrogen and carbon, varying in characteristic from the lightest of the naphthas at the top to the heavy coke at the bottom. The process of refining is known as fractional distillation, which depends upon the fact that each of the constituents has a different boiling point, or point at which it passes from a liquid to a gaseous state, as water does when it becomes steam. The petroleum (known in the vernacular of the refinery as "crude"), which has been brought by the pipe line from Pennsylvania, or West Virginia, or Illinois, or far Kansas, to the refinery's storage tanks, is pumped into stills, standing by scores in a row. The stills are great boilers, and

a steady fire is kept beneath them, when charged with a fresh supply of "crude," for three days.

As the temperature of the still rises, the lighter oils (the naphthas) are vaporized first. They are condensed again to liquid by passing through long coils of pipe surrounded by cold water. Next come the illuminating oils, heavier and requiring greater heat to vaporize. The residue, left in the still, is called tar; by a further distillation in other stills it is resolved into many grades of lubricating oil, fuel oils, wax, roofing pitch, and a final solid product called coke, useful for making carbon points for electric lights and for burning. The impure products of the first distillation are cleansed by washing in great cylindrical "agitators" with sulphuric acid, caustic soda, litharge, and other chemicals. They are then redistilled for further refinement, to give them the white "color" which in many sections is an almost indispensable quality, and to make them test high enough to meet the requirements of the laws of the different states and countries where they are to be sold.

If the actual processes of refining are invisible, a large refinery carries on many activities that have much of picturesqueness.

The refinery at Bayonne, New Jersey, one of the largest of the nineteen owned by the Standard, covers an area of four hundred acres and employs six thousand men. The mere extent of the works is impressive. In a building near the landing pier three giant pumps with twenty-foot fly-wheels are running smoothly, irresistibly, with hardly more noise than a well-oiled sewing-machine. Each of these monsters is pumping fifteen million gallons of water in every twenty-four hours. Two others, not far away, are adding the same quota to the great flood needed for cooling the distillates in the condensers.

These pumps are of interest not only because their size is impressive, but because they are built by the Standard. A visit to its great pump-works at Oil City shows a manufactory with the most modern and complete equipment, employing five hundred and sixty men. When I visited the works, there were on the floor, in process of erection, a five hundred horse-power triple expansion pump for Marcelline, Missouri, capable of pumping 50,000 barrels a day; two compound pumps of 18,000 barrels' capacity for two points in the Illinois field; a fifteen hundred horse-power compressor, which in a month or so would be pumping ten million cubic feet of natural gas a day from southern Pennsylvania to Pittsburg; a thousand horse-power compressor for pumping gas to Buffalo; a small pump for an oil barge; and several gas engines for oil farms in Illinois and West Virginia.

The Standard believes in buying nothing which it can make as well or better. At Oil City it builds pumps, at Buffalo tank cars, at each refinery it carries on many auxiliary industries. At Bayonne, for instance, the Standard makes its own barrels and re-coopers the old ones returned from the consumer; the oak for the barrels comes from its own forests in South Carolina. It makes the glue used for coating the inside of the barrels, the sulphuric acid used in the "agitators," the wooden cases which hold two five-gallon tin cans, and, most important of all, the cans themselves in which all oil for the Far East and tropical countries must be shipped, to prevent deterioration.

The making of the five-gallon can is a marvel of mechanical ingenuity. Up and down the length of a long room passes on endless belts the can in the making; after the first three or four machines, which stamp from the

tin plate top, bottom, and sides, and crimp them together, have been fed by hand, the can is not touched again till it is filled with oil and ready to be lifted into its case. In the process ten seams are soldered; three men serve to tend the soldering machines that turn out sixty thousand cans a day. When the can is filled, and, with a fellow, in its wooden case, the cover is nailed on by a machine. and the case sent off by another endless belt to the shipping-room.

As the tug bore us swiftly down New York Harbor to the refinery at Bayonne, a line of great tank steamers, stretched at anchor along the Staten Island shore, suggested a measure of the growth of the Standard business. Twenty years ago the foremost exporter of his day was exceedingly proud of the achievement of his works when they loaded a ship a day, six ships a week. Those six ships carried perhaps thirty thousand barrels of refined oil. To-day the Bayonne works still load a ship a day, but that one steamer carries twice the week's output of the olden days.

At the dock we found two more tank ships, one half-loaded with refined oil in bulk for Germany, the other having her tanks washed out for her cargo of oil for Calcutta. The jute factories up the Hooghly River in India use large quantities of this "batching" oil in their manufacturing processes.

At the next pier a great square-ended barge, all tanks from bow to stern, was cleaning up after a trip from Baltimore. Soon she would take aboard refined oil for the New England market. Next her the crew of a broad, unwieldy lighter was handily tautening down the tarpaulin covering on a load of hundreds of barrels of wax, destined for one of the tramp freighters in the harbor or for the hold of a trans-Atlantic liner.

At the last pier lay a reminder that the days of the sailing vessel are not quite past. A full-rigged ship was taking on the last of a cargo of a hundred thousand ten-gallon cases of illuminating oil. Her destination was Australia. A sister ship, at anchor off shore, would take her place presently to load for China. On a spur track at the other side of the refinery grounds, a train of tank cars was taking on refined oil for the distributing stations in New Jersey.

These were representatives of a fleet of sixty-five steamers and nineteen sailing vessels for foreign service; a fleet of one hundred and five barges, twenty tugs, nine towing steamers, and six launches, and an equipment of nine thousand two hundred tank cars for domestic trade.

The distributing station of the Standard, close by a railway station, with its characteristic tank and neat stable, is a familiar sight. In the domestic service 3326 of these stations are supplied with oil by tank cars and barges. From the stations nearly five thousand tank wagons go out carrying the oil over regular routes to the country stores. The wagons sell not only oil, but lamps and oil heaters, both of simple but exceedingly efficient designs. They are sold at low prices, to stimulate the use of oil.

In the foreign service the Standard has one hundred and sixty-two importing stations, almost five thousand distributing stations, thirty manufacturing plants, and four thousand tank wagons. The Standard has always devoted itself vigorously to the extension of its market throughout the world. In this endeavor it has had to work against the competition of the great oil fields of Russia. How well it has succeeded is indicated by the fact that sixty per cent of the refined oil which it produces is exported.

The name of the Standard Oil Company has come to mean a number of things, good and bad, to different people, with how much justice in each case would be hard to determine. But one very definite thing it does stand for: a standard of quality, an inflexible requirement of the highest excellence in its products.

The question was recently propounded, "What has been the greatest contribution to the progress of civilization in this country?" The natural replies — the printing-press, the steam-engine, the telegraph — were all negatived by the propounder, and the true answer declared to be, "The Standard Oil Company."

Further explanation was offered somewhat in this wise: "The Standard Oil Company, by improving the processes of refining petroleum, by raising the standard for refined oil and by lowering its price, has made it possible for the farmer, the dweller in the small towns and villages, the ranchman and the miner in their isolation, to have a safe, efficient, and cheap light, and by its help to read at will through the longest evenings of the winter. The availability of an inexpensive standard illuminant has made possible the extension of the mission of the printing-press; by bringing the distant dwellers into contact, through their reading, with the world has increased their desire and their need for travel, has spread civilization into the far corners of the land." The claim is doubtless exaggerated, the ranking far too high for any one body of men; for there is more than a germ of truth in the suggestion. The Standard has steadily improved the quality of refined oil, till, as an officer of the Company said, "The poorest refined oil to-day is probably better than the best twenty years ago."

This standard is maintained by constant inspection and testing of products, and by the most careful attention

to complaints from any source whatever. Every refinery has a fully equipped laboratory, where skilled experts make careful tests of the products at every point in their manufacture, solve the problems that continually arise from the variation in the character of the crude, and make experiments with a view to improvement in methods of manufacture and to betterment, however slight, in the quality of the product. In addition, the top floor of the famous building at 26 Broadway contains another laboratory, under the direction of the chief chemist of the company, where checking tests are made on samples of each shipment from the various refineries. An illustration will indicate the thoroughness of the inspection.

When a tank steamer is loaded at Bayonne, for example, the mate, who of course has no connection with the refinery, takes a sample of oil from each of the steamer's tanks. These samples, perhaps a dozen in number, are placed in a locked case and sent to the laboratory at 26 Broadway. There they are put through the usual tests. When the ship reaches its destination — say, London — the mate takes another series of samples, incloses them in another locked case, and sends it back by the next steamer. Tests of these samples will reveal any deterioration of the oil in any one or more of the tanks. An unfavorable result from any of these inspections will be called sharply to the attention of the men responsible for the manufacturing. Warning is also sent to the selling department in England that that lot of oil is not perfect; they are instructed to be on the watch for complaints, and to allow the return of the oil if it does not give satisfaction. As at the one end of the line the Standard strives to “take care of the producer,” at the other it bends every effort to satisfy the consumer.

Several years ago a complaint of the quality of the oil

was received by cable from Norway. By the first steamer after its receipt three men went to investigate. Tracing the complaint to its source, they found the fishermen along the lonely Norwegian coasts using the oil in lamps formerly used for burning fish-oil. Unsatisfactory results from even the finest oil burnt in those lamps, clogged and foul with the residue of such a crude product, were inevitable. Demonstrations in proper lamps showed the originators of the complaint the baselessness of their charge. It cost the Company five thousand dollars to run down that complaint; but the "Standard" was vindicated.

In addition to the constant inspection of the Standard's products, its chemists do invaluable work in the investigation of manufacturing processes. The crude oil from each field differs in some particulars from every other crude, and in most cases requires a different method of refining. The Ohio crude is the most notable example of this peculiarity. It is heavily charged with sulphur. It was a long time before a process for removing the sulphur was discovered in the Standard laboratories. The discovery raised the Ohio crude from an almost worthless product to a position of practically equal value with other crudes. The Texas crude went begging at a cent a barrel until the Standard invented a satisfactory method for refining it. The California crude was for long considered to be of value only for burning in its unrefined form. The Standard chemists finally succeeded in solving the problem of its refinement.

It is safe to say that there is one body of men to whom the more or less popular conception of the Standard as a soulless giant of predatory tendencies has no reality. To the sixty thousand employees of the Standard in this country and abroad the Company is a good master. The

men of the rank and file are held in their loyalty by good wages, considerate treatment, and the prospect of a pension after faithful service. The men in the more responsible positions are actuated not only by feelings of gratitude for generous recognition of their services, but by a sense of partnership in the greatness of the business which they have themselves helped to build up.

Many times I have asked foremen and superintendents and higher officers how long they have been with the Standard, and the invariable reply has been, fifteen years, or eighteen, or twenty, or twenty-seven, or thirty years; men do not stay with an employer for such lengths of time merely for the money they can make. In every case, too, an enthusiasm has been expressed for the Standard which speaks well for its leaders and for the spirit in which they have conducted its internal affairs. From my observation the Standard army has a full measure of that *esprit de corps* which is almost vitally essential to victory in the arts of peace as well as in those of war. Whatever outside observers think of the Standard, the men, from the top to the bottom, who have helped to make it what it is, believe in it.

THE RUBBER INDUSTRY

BY HENRY CLEMENS PEARSON

IN THE JUNGLE



HE *tigre* is dead, Patrón," said Juancho softly in my ear, and I almost fell from my tree perch for I had not heard him climb up beside me.

We had been journeying nearly a month by river boats, first up the Amazon, then up the Solimoês, planning to reach some of the great rubber camps before the floods slacked. At "Paraiso," Juancho's excellent Spanish was well understood by the Portuguese and we were warmly welcomed, given a place to swing our hammocks, and invited to remain a year if we wished at the *seringal*, as the wild rubber estate is called.

We had been there several days when a Cearense left his *estrada*, came back to the *seringal* in the middle of the week, saying that a jaguar was stalking him and that he was doomed. Whether true or not he was too much frightened to work and Juancho suggested a remedy.

Overhanging the river, where the receding waters showed a great spit of yellow sand, was a lofty tree, its spreading branches beginning about thirty feet from the ground. About its trunk, and, indeed, hanging from the branches, were bushrope cables up which any active man could climb. In a crotch on one of these branches Juancho fitted up a fairly comfortable seat for me, then the Cearense dragging a huge catfish out on the sand, left it and going down to the margin of the river returned to camp by boat. My duty was to keep out of sight until

the jaguar, trailing the man or the fish, appeared in the moonlight, and then to shoot promptly.

What a long night that was and how strange even to me seasoned to tropical experiences! The bright moon showed the river surface, silvery brown, stretching away to where it met the jungle line, a solid black wall. There were few floating logs and no grass islands such as had been abundant during the height of the flood. Twice alligators approached the sand-spit but disappeared without landing, due to some subtle warning from Juancho.

At last a sinuous shape, flattened close to the ground, stealthily moving toward the fish, caught my eye. It was the jaguar, or *tigre*, as the man from Ceara called it, which I had not believed in and for which I was unprepared as my heavy rifle lay across the branches behind me. By the time my cramped muscles had allowed me quietly to get it, the great cat had seized the fish, turned with incredible swiftness and started for cover. I fired and fired again and the jaguar disappeared. I was sitting looking moodily at the river ashamed of my carelessness, when Juancho informed me that although the *tigre* had reached the edge of the jungle it had fallen dead.

This episode made me very popular, not only with the trader who owned the *seringal* but with the *seringuieros* or rubber tappers as well. They willingly allowed me to accompany them through the forest as they tapped the trees and affixed the cups into which the creamy rubber milk slowly trickled. Later I watched them dip paddles into the milk, and hold them over the palm-nut fire until it dried into a tough dark film. Over and over this was done until large balls were formed ready to be taken to the store to be exchanged for provisions, trinkets and *cachaca*, or cane spirit.

The Cearense was of a different type from most of those whom I had met, in that he was curious and asked questions, particularly about rubber. With a pointed stick he would draw a map on the dirt-floor of his *barraca* or hut, showing the parts of the world, as he knew it, from which rubber came. Then I would draw my map, but I doubt if he really understood all that I showed him.

Brazil with its great rivers and its coast line as far down as Pernambuco he comprehended and loved to dwell on, but when I showed him the Guianas, Venezuela, the Central American States, and Mexico on a rough map I think he was bewildered. Then one night I showed him the great rubber belt extending across Africa, taking in Southern India, the Malay Peninsula, Java, Sumatra and the Philippines. He refused to believe that there were such places, and told Juancho privately that his Patrón was a "brave man and a good shot, but a great liar."

In the meantime, however, Juancho became interested and talked volumes of his "*muchacho*, Miguel," who was in "Nuevo Yorcka," where he was studying to be as learned as an Americano. He was to be an *aviadore*, a rubber-dealer, and live in Pará. He would buy much rubber from the *seringuieros* at his own price, and sell it to the Americanos for fifteen, nay for perhaps twenty milreis per pound. Juancho really had more imagination than any of the others, and, because of his eagerness to learn for his boy's sake, I really enjoyed those evening chats. One evening he said to me:

"How much *borracha* does the whole world give each year, Patrón?"

"About 140,000,000 pounds," said I.

But he could not comprehend that. So pointing to the big ocean-going freighter that lay out in midstream, I said:

"The *Putamayo* carries perhaps 1000 tons. It would

take seventy such vessels loaded full to carry the world's crop."

"*Bueno! bueno!*" he exclaimed in amazement.

Then I told him of the vast plantations of rubber trees, particularly in the Far East, of more than a million acres. Great orchards with armies of tappers, and factories for changing the milk into rubber. While this surprised him, his knowledge of forestry came into play at once.

"Those trees will die, Patrón," he said, "by disease or insects. The good God planted the rubber trees here far apart. If one gets sick it dies, and does not infect the others. All the trees and vines that separate them are protectors. Your rubber orchards will die from pestilences."

"They would," said I, "but the American schools teach many young men to be tree doctors. They have medicines for leaf diseases, poisons for insects, and, like surgeons, they cut away diseased roots and branches. These men are called Mycologists."

"I am glad," said Juaneho, "that my *muchacho* is in Nuevo Yorka and is an Americano. For see, Patrón, what he can do. He can study perhaps to be a Señor Mi-mikrologist and cure the rubber trees of the world." Or perhaps he will be a Patrón of a great estate of planted rubber with thousands of men under him. Or he may wish to be a doctor botanist like the Señor Burbank you told me of; growing trees that give more milk and perhaps a better product than even our fine Pará. Truly the Americano boys have great opportunities!"

IN THE FACTORY

"All right, Dick," said his father, "if you don't want to go to school and study you needn't. Try work and see how you like it."

And that was why Dick, sixteen years old, the captain of his baseball team, happened to be one of the helpers in the grinding room of a rubber factory. If the truth may be told, after the first week he did not like it very well. The great steam-heated rolls of the mixing mills between which the rubber was forced, were exceedingly hot; so was the room. The clatter of the mighty gears running in their pinions, drowned everything but the loudest shout, while the dust of whiting, litharge and sulphur, as it was forced into the softening rubber, kept the air dense and stifling.

He did not tell anyone that it was not all fun and that the superintendent, who had orders to "keep him busy," saw to it that he did not have an idle moment. But the machines fascinated him. They were so huge, so resistless as they crushed and sheeted the quivering blocks of tough gum. Dangerous, too, they were, and he shivered over the tales the grinding-room gang told of men who had been caught and crushed.

Then one day as he paused in front of a three-roll sheeter, Big Jim, who was "tending" it, slipped, the front of his heavy jumper caught, and he was being drawn swiftly into the machine. How the boy did it he never knew. But catching a shifting bar, he threw it between the swiftly moving cogs of the driving gear and its pinion. There followed a series of crashing reports like cannon shots as tooth after tooth broke and the machine stopped.

Half an hour later Dick, rather pale and shaken, was seated in the President's office not knowing whether he was to be punished or rewarded — punished for breaking a machine that cost thousands of dollars or rewarded for saving Big Jim.

"Your father tells me that you don't like to go to school," said the President quietly, ignoring the accident.



SMOKING RUBBER

"No, sir," said Dick.

"And you want to learn the rubber business?"

"Yes, sir."

"All right, let us figure it out now. In the first place, you wish to work rather than study, so that you can have a horse, an automobile, guns, fishing tackle, and money enough to travel and see the world?"

"Yes, sir," said Dick, his eyes sparkling.

"All right. Now, if you stay in the grinding room, as Big Jim has all his life, you would earn not more than two dollars a day. It would take a long time to buy an automobile on that, would n't it?"

"Yes, sir."

"So you see you must have your eye on one of the better positions. Let's find out what they are."

The President produced five blue cards. On one of them he wrote Rubber Chemist; on another Rubber Mechanical Engineer; on the third Rubber Superintendent, on the fourth Rubber Merchant, on the fifth Purchasing Agent. Spreading these out on the table he said:

"Now each of these positions brings the man that fills it anywhere from \$3000 to \$10,000 a year. His assistants get half as much. You can have any one of these positions just as soon as you are fitted for it, if not in this factory in some one of the hundreds of other big rubber factories in this country or Europe. Before you select let me tell you what you must know.

"If you choose the first card and decide to be a Rubber Chemist, you must know all about the thousands of grades of rubber and compounding ingredients, oils, acids, alkalines, solvents, etc., so you'll have to take a thorough course in chemistry, and that means school, doesn't it?"

“A fellow can study at home, said Dick, argumentatively.

“Right you are,” said the President, genially, “let’s cut the chemist out for a while.”

“Suppose we size up the Mechanical Engineer! He must know all about machinery. How to build it, repair it, set it. All about stresses and strains. Much about metals. In fact, to be really good he ought to have a course in mechanical engineering, and here we are again right up against that tiresome school. Let’s lay the mechanical engineer aside, shall we?”

Dick said nothing, and the President took up another card.

“Rubber Merchant, — that means the man that sells the goods, and he should be well prepared. He must be able to write a good letter, to know business law and accounts, and should know something of banking. He ought to have an idea of commercial geography and of tariffs. Say ! this won’t do. It’s driving us right into a commercial college!

“Let’s analyze the Superintendent. If it was twenty years ago you could stay right in this mill and learn how we do things, and if you were able to handle men you might rise to the superintendency. But we are getting fussy. We want our “Super” to-day to know something of chemistry, considerable of mechanical engineering, somewhat of merchandising, and a lot about buying. In fact, we are taking on young men from technical schools to work into such positions. School seems to pop up everywhere, doesn’t it?”

“Yes, sir” replied Dick, faintly.

“Then there is the Purchasing Agent. His is a hard job. He must know all of the materials we use in rubber; fabrics, ingredients, the firms that supply them, and what

the markets of the world are. He needs about as broad an education as any one of the others, and a lot of judgment besides. He should have some schooling, shouldn't he?"

"I don't mind studying if it is something that will help," said Dick, desperately. "But I hate Latin, and—and—"

"So did I," was the hearty answer. "But I am glad they kept me at it, now. It helps a lot. Say, let's hit on a compromise. You pick out the line you wish to follow. Work here this summer and learn all you can. I'll help you. Then this fall jump into whatever school covers the line you wish to master. Carefully learn what is necessary and your job will be waiting for you here, a bigger, better one than you can get any other way."

"If all those 'Tech' men are coming in, won't it be — be crowded?" suggested Dick.

"The big rubber business crowded! Not a bit. Why look at the lines. Take insulation, for example; think of the miles of ocean cable, gutta percha, to be sure, but that's rubber's first cousin. Then the electric-light wires and cables, — the telephone wires all rubber covered, — a big industry in itself.

"Crowded? With the immense grain elevators using rubber belts, the paper mills rubber rolls, the mines belting and hose, the railroads steam and air-brake hose?"

"I didn't know it was so big," stammered Dick.

"Few persons do — and I have only outlined a little of it. Think of the rubber-shoe mills that make 300,000 pairs a day; the surgical and sundries factories that make water-bottles and druggists' goods by the car-load. Picture the great establishments that make mackintosh and rubber coats for the world. And tires, there's a business — runs into millions and still running."

"Couldn't run an auto without them," said Dick, enthusiastically.

“Right; and pretty nearly every industry, every art, and every individual to-day depends more or less upon rubber. Most wonderful business in the world.

“And we must not forget the great reclaiming mills. All the worn-out rubber goods are collected, run through great machines, made new again and put into use, thousands of tons every year.”

“That’s dandy,” said Dick, full of excitement, “can I choose now?”

“Sure thing,” was the answer.

So the President spread out the cards and Dick selected — which one?

THE LUMBER INDUSTRY¹

By M. J. MUNN

HAVE you ever looked at the glistening front of a piano, or the polished floor of the ball-room, or, to remove to more meditative surroundings, the table at which you write, the chair in which you sit, or any of the thousand other objects made from wood which daily attract your eye, and wondered how that particular bit of matter came to have its present position, shape, and appearance? Have you ever gone further, and tried to trace back to their fountain-head the devious currents which drift together these floating bits of forest wreckage? If you have, you perhaps have come partially to realize the immensity of the debt owed by man to the tree.

From the time the first armor-clad Spanish cavalier fashioned his cross-bow, or replaced his broken lance, in the darkened corridors of that boundless American wilderness, on through the long periods of exploration, colonization, organization, and development of what is now a mighty commonwealth, teeming with life and restless energy and supporting a highly complex civilization, there has been a constant, ever-increasing, insatiable demand for the products of these forests. For the purpose of supplying this incessant need of man for the Wood Useful and the Wood Beautiful, there has grown up with the country a magnificent industry whose innumerable branches permeate every fiber of our business life, and for whose sus-

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tenance and perpetuity mighty forests daily crash to earth and forever fade away.

For example, during the year 1903 there were cut, in the United States, over one hundred million trees more than one foot in diameter. These represented a solid block of wood one mile square and nearly five hundred feet high, and if cut into inch boards would have been sufficient to lay a floor one mile wide from New York to St. Louis. The forests of the United States are falling at the rate, it is reckoned, of about forty-five square miles a day. Yet almost within the memory of men now living, every plank used by the pioneer was laboriously "whipsawed" out by hand, or split from the log and flattened into plank form with broadax or adz as a "puncheon."

The cause of this phenomenal growth of the lumber business of the United States is characteristically American. Aside from the increasing demand for lumber resulting from the rapid development of the country, it is largely the direct effect of improvements in the methods of reducing trees to lumber. Cheap and abundant timber, favorable transporting facilities, and an almost limitless sale for the finished articles, have offered an irresistible challenge to Yankee ingenuity for the invention of rapid, labor-saving machinery in every department of the work. This, together with a thorough systematization of the business, has given to us another marvel of the Western world — the modern lumbering plant.

The lumber industry is at the present time the fourth in value of products among the great manufacturing industries of the United States, being exceeded only by the iron and steel, the textile and the slaughtering and meat-packing industries. Upward of seven hundred million dollars of capital is invested in the various lumbering establishments, and more than three hundred million wage-earners

are given employment. About one hundred and twenty million dollars was paid out in wages during 1903, and forty billion feet (board measure) of lumber were produced by the mills, valued at over six hundred million dollars.

The most valuable of the common kinds of timber is the white pine, from which the bulk of the ordinary sawn lumber is made. This species has its home in northern New England and in the northern half of the lake states, and is found in no small quantities in Pennsylvania and West Virginia. Since the partial destruction of the white pine in New England and northern New York, spruce has become the principal commercial timber in that section. Hemlock is also found along very much the same range. Southern yellow pine grows in all the Southern States, and western yellow pine is the commonest pine of the Rocky Mountain and Pacific Coast states. Sugar pine is found mainly on the western slope of the Sierra Nevada range.

The up-to-date lumbering concern is separated into three natural divisions, each of equal importance. First, the logging department, whose function it is to secure and deliver to the sawmill the raw material in the shape of sawlogs cut into suitable lengths for lumber. Next come the sawmills and planing-mills which manufacture this wood into various sizes and grades of lumber, and prepare it for the market. The third department has to do with the transportation and sale of the finished article. An important adjunct to the first two of these is the repair department, which, in addition to its evident function, has charge of the purchase and instalment of new machinery. Each of these in turn is divided into numerous sections, under competent foremen; yet all work in such perfect harmony, and are balanced with such mathematical exactness, that any marked change in the production of

one instantly receives sympathetic response from each of the others.

Evidently the first thing to be taken into consideration in the establishment of a modern sawmill is that of securing control of a sufficient supply of timber to justify the large expenditure necessary to put the mill into operation.

When these preliminary difficulties are at length overcome, and the mill is established ready for cutting lumber, it still needs the best business talent for its successful operation. Take, for example, the logging department of one of our large mills. When we begin to consider the task of cutting, and transporting from one to one hundred miles, three hundred thousand square feet of heavy logs, each weighing several tons, in the ten hours of each working-day of a year, for a score of years, we are appalled at the immensity of the undertaking. Yet that miracle is actually being performed by logging outfits in almost every lumbering state of the Union. And that, too, against natural obstacles which to the layman appear insuperable. The diversity of conditions in various parts of the country has of necessity led to the invention of machinery, and to the adoption of methods, best suited to the section in which they are found. In many regions, logs are supplied to the mills by contract, at a fixed price per thousand feet board measure. The task of keeping filled the ravenous maws of these huge timber-eating monsters is not an easy one. Logging companies who undertake it put up a stiff forfeit for every day that the gluttons go hungry.

Practically all the cutting is done by hand. The Patent Office at Washington has models of many ingenious devices for doing this work by machinery, but some inventive brain has yet to produce a practical machine that will take the place of the primitive weapons of the pioneer,

the saw and the ax. These, however, have been brought to a high degree of perfection, and in the hands of the skilled lumber-jacks work wonders. In cutting the timber, the men work in pairs. Their tools are a saw, two axes, two iron or wooden wedges and a measuring-stick; and last, but not least, in pine timber a liberal supply of kerosene is needed to prevent the saw from becoming gummed by the copious flow of crude turpentine from the trees.

The process of felling is simple in theory yet sometimes most difficult in execution. But few trees stand quite vertically. So in a thick wood, where the danger of lodging is great, it is often necessary to throw them at various angles to their "lean." This is done by cutting a deep notch with an ax about three feet from the ground, on the side of the tree toward which it is to fall. On the opposite side the saw is inserted a little above the notch. Often the tree "pinches," fastening the saw. The crack must then be forced open by a wedge driven in behind. The improper placing of this wedge, a sudden gust of wind, one side of the saw cutting faster than the other, or a hundred other things, may happen to send the toppling tree crashing down in a wrong direction. Yet the skilled lumberman solves the most difficult combinations at a glance, and fells his trees with the unerring aim of a rifleman.

The logs are next cut into lengths varying from ten to one hundred feet — rarely more than thirty feet — depending upon the length of tree, and the use to which the lumber is to be put. The sawyers are usually paid per thousand feet, the price varying with locality, grade of timber and lengths of sawlogs. The standard price for average pine timber is about fifty cents a thousand feet board measure. From ten to fifteen thousand is a good

day's cut for two men, giving a daily wage of two dollars and fifty cents to three dollars and seventy-five cents a man.

The next step in the work of supplying the mills with material is that of transporting the logs. In New England and northern New York, where lumbering operations on a large scale first began, streams were used as carriers. Rivers ran for half their lengths through unbroken forests of white and yellow pine, spruce, fir and hemlock, while at their mouths growing cities furnished a ready market. In those days, timber was considered worthless unless situated adjacent to a navigable river. To-day, a large percentage of the thousands upon thousands of logs which annually float down from the big woods with the spring freshets have come from far inland.

Here, as in the Lake States, Michigan, Wisconsin, and Minnesota, most of the logging is done in the winter months, when the soggy ground is frozen hard and heavy snows make sledding easy. In sections where the timber is too remotely situated to allow of sledding directly to stream or mill, a light temporary railroad is sometimes projected into the area to be cut. From this main track, numerous spurs are run out into the timber. The logs are hauled on sleds and dumped along these tracks, then afterward loaded on trucks and pulled out in train-loads by specially constructed locomotives called shays. Sometimes the logs are drawn out of the woods to the track and loaded on the trucks by steam. For this work complicated machines called steam skidders are used. These are fitted with two-thousand-foot wire cables, and are so constructed that they move along the track, stopping at intervals and thrusting their long tentacles out into the forest in every direction, "snaking" the heavy sticks in through brush and fallen tree-tops with a crash and a

bang most alarming to the uninitiated. The end of the cable is dragged out to the logs by being attached to the harness of a horse, with a boy astride. It is fastened to the end of the log by huge grabs constructed so as to prevent the end of the log from becoming caught against obstacles in its path. The machine has a steam crane for lifting the logs to the trucks.

This is by far the most economical method of handling the heavy sticks, and is being adopted, in one form or other, in every important lumbering section of the United States where the nature of the country will permit of its use. It is not very extensively used in the Adirondacks or in New England, because of the rough, mountainous character of the country. Here sleds are almost universally used, and instead of the railroad a carefully graded roadway takes its place. This is constructed during the summer months, and as soon as the snow falls it is packed and sprinkled until it is covered with a smooth, hard coat of ice. Immense sled-loads of logs may then be drawn over it by a single team of horses.

If the haul is directly to the mill, the work of the logging company ends there, but very frequently the goal is a hundred miles or more down the swift, turbulent course of some mountain stream, and the most dangerous and laborious work of the lumbermen still lies before them. When the logs are brought from the woods, they are "banked" in gigantic heaps upon the ice of the river, or in convenient places along the shore. In the spring, heavy rains and melted snow flood the river, the rotten ice breaks up under the great strain, and thousands of waiting logs sweep along with the rising flood.

The raftsmen are now in their glory. Over the undulating surface of bobbing logs they skip with the agility of monkeys; pushing here, pulling there, trying always to

keep the logs floating endwise with the current. On they go, the logs running smoothly in the wide open stretches; next jamming so tightly in some narrow, tortuous channel as to require heavy charges of dynamite to dislodge them; again circling in eddies, or racing through rapids at lightning speed, like a flock of unruly sheep driven to pasture yet always under the quick eye of a nimble shepherd. Days are often taken in the drive.

The men are usually divided into night and day shifts, and if help is plentiful, sometimes into three gangs working eight hours each. The autocrat of the occasion is the cook, who serves four meals a day, and hot coffee at all hours, from his "wannigan," or house-boat. Frequently a couple of bateaux take the place of the house-boat, and the meals are served from tents pitched at intervals along the shore. The tired men sleep anywhere fancy suggests, usually on a bed of boughs and rolled in a pair of blankets. Yet the greatest good-humor prevails. Men who hourly take their lives in their hands, and who elude death by a hair a dozen times a day — whose very existence depends upon the quickness of a leap, the agility of a side-step or the accurate thrust of a pike-hole — are usually men of the liveliest wit and of the jolliest comradeship.

At the mill, great booms stretched across the river catch the drifting logs. The river being a common carrier, drives of a dozen logging companies may arrive at the mill simultaneously, the logs being mixed in the greatest confusion. They are then identified by each company's brand on the end, assorted into private booms and formally turned over to the milling company.

In the yellow-pine districts of the Southern States but little rafting is done. Here the country is comparatively level, and the cost of driving a rough logging railroad through the wilderness is small. This offers a much better

assurance of a steady supply of logs. In these sections logging goes on throughout the entire year. Logs cut during the summer months, while the sap is up, are quickly attacked by worms which bore deeply into the wood, thereby greatly impairing its usefulness as lumber. To avoid this trouble, every large mill has a pond or reservoir, either natural or artificial, into which the logs are dumped directly from the cars. The water not only protects the logs from worms, but by soaking out the sap prevents its drying in the wood and producing the discoloration known as mildew. Water-cured lumber for this reason commands a higher price. These reservoirs often cover a hundred acres or more, and are kept crowded with logs as a reserve in case the supply from the woods should dwindle during bad weather.

Logging in the Pacific Coast states, where the trees grow to such enormous size, necessitates the employment of radically different methods from what are used in other parts of the United States. Here the donkey-engine, a modification of the steam skidder, furnishes the motive-power for moving the heavy sticks. It consists of a small upright engine fitted with a drum or capstan upon which winds a long wire cable. Such an engine is firmly planted at intervals alongside a rough roadway, leading from river or mill to cutting area. The logs are fastened end to end in long strings; each engine then in turn drags them through the length of its cable. To reduce the friction of the sliding logs, the roadway is often corduroyed with small logs laid crosswise at intervals of two or three feet. This method is by far the best yet devised for moving large timber in thick forests. From the above brief outline one may get a fair conception of the magnitude of the operations necessary to keep a modern sawmill supplied with its raw material.

Before the logs are ready for the shipping car they are drawn from the pond up an incline to the second floor of the mill by an endless-chain device, which is so arranged as to deliver them to the saw at the exact moment they are needed. Inside the mill, one is bewildered by the flying machinery. Not a dozen men are in sight. Over at one side stands a man seemingly absorbed in trying to pull half a dozen levers at the same time. A great log three feet in diameter comes up on the endless chain from the pond. It reaches a certain place, the man presses a lever, the log rolls off on a "carriage" — another lever, and heavy iron "dogs" fly up and bury themselves in the log, holding it fast. More levers now work in rapid succession — the carriage flies back and forth past a great double-edged band-saw running at lightning speed, which at each passage slices off long strips with the greatest ease. This continues until the log is "squared" on two sides, when it is thrust from the carriage, sweeps endwise into a huge gang-saw, and upon emerging from this, falls to pieces as lumber, each piece dashing away on "live rollers" to its respective place in some distant part of the stacking-yard. You look at your watch: from the time the log first appeared until the last piece goes racing out of the building, less than thirty seconds have elapsed. Yet this terrible speed is maintained from eight to twenty-four hours per day for weeks, months, even years!

Lumber intended for immediate shipment travels on live rollers to the dry-houses, where it is stacked on trucks by hand. The trucks are then hooked to an endless-chain system and creep through a long chamber heated to a high temperature by steam. From two to three days are taken to make this journey, the lumber emerging at the other end of the building dried ready for the planer.

Another endless chain next takes the truck and delivers

it to the planer-shed, perhaps several hundred feet away. Here it is unloaded and passed through the planer, a large, intricately constructed machine, carrying adz-like knives on revolving cylinders. As the boards pass through, these "bits" clip off a thin layer of wood from each of its four sides, leaving the surface smooth. Bits are made in many designs, cutting boards into any shape desired.

As the lumber comes from the planer, it is assorted into grades and sent away on live rollers to different parts of the shipping-shed, from which it is loaded on box-cars as it is needed, and shipped to the company's lumber-yards in distant cities. Lumber not intended for immediate use and that which is to be shipped in the rough, goes directly from the saw to the drying-yards, where it is stacked in large, open piles to dry in the sun. Here accumulates the company's reserve-stock, which sometimes grows to be millions of feet, the huge stacks making a city of lumber covering many acres.

One must not imagine from the above brief description that all lumbering in the United States is done upon such a stupendous scale. The fact is, these large mills are the exception rather than the rule.

All sawmills, whatever their size or location, are divided into two general classes, the hardwood and the softwood mills. The former cut such trees as oak, hickory, walnut, beach, maple, and gum; the latter, white and yellow pine, cedar, fir, cypress, hemlock, spruce, and the like.

There are but few mills of the largest type cutting hardwood exclusively. The principal woods of this class are widely used for ornamental purposes, and in order to get the greatest value out of the timber, care must be taken to cut each board at a certain angle to the grain of the wood. This necessitates special machinery and extra attention, which greatly reduces the output. Some of

the large mills operating in sections where the forest is composed of both hard and soft woods, have machinery for cutting both kinds of lumber. Hardwood is becoming so scarce, however, that it is now very difficult to find available areas large enough to justify the establishment of big mills.

Most of the output comes from thousands of small portable mills, having a daily capacity of only three or four thousand feet, which, when the supply of timber is exhausted in one locality, are easily removed to another. Perhaps the greatest single consumer of hardwood in the United States is the railroad, though, of course, the bulk of this timber goes to supply the demands of manufacturers.

There are four great destructive agencies to be overcome, or at least greatly modified, before the growth of wood in the United States will equal its present consumption. These are ignorant and indiscriminate lumbering, forest fires, disease, and the wanton waste of timber by settlers in clearing land. Each of these is a great source of waste.

Enormous as is the waste by fire, it is perhaps equaled by that resulting from the present extravagant methods of lumbering. The whole business is conducted upon lines diametrically opposed to conservative lumbering. Each acre is cut clean, once for all. No attempt is made to cull out only those trees which have reached maturity, leaving the young, rapid-growing ones for future use. To do this would mean an increase in the cost of production, which in some cases would prove fatal in the face of keen competition. Most lumbermen, realizing that their business is more or less temporary, quite naturally do not feel inclined to sacrifice a bird in the hand for a possible two in the bush; though every progressive operator realizes, poignantly, the imminent need of such action.



HAULING THE BIG LOGS

These and many other vital questions regarding the maintenance of an ample wood supply are problems for the practical foresters. And no body of men are more painstaking in their investigations, more accurate in their deductions, or more intensely practical in their application of results, than these. We hail the day when the principles of scientific forestry will be applied in cutting the scanty remainder of our once magnificent forests. Not until this is done can we hope to see the production of wood equal its consumption.

CANNING AND PRESERVING¹

By FREDERIC WILLIAMS

IN the "good old days" — pleasant myth! — we all know how the canning and preserving of the family jam and fruits was accomplished; how for days the pungent odors of spice and the boiling peaches, grapes, and quinces, not to mention the more modest tomato and the humble apple, pervaded the atmosphere of every room from cellar to attic. In those days the family recipe-book, handed down from generation to generation, added to and modified, as it passed along, was a distinctive compilation, each differing from all others of its class. Who of us does not remember, from personal experience or traditionary legend, the surpassing excellence of Mrs. Brown's red-currant jam, of Aunt Polly's pickled pears, of Grandma Jones's plum jelly? There was no more doubt that Aunt Polly's pears were juicier and sweeter and more generally delectable than Mrs. Brown's than there was that the latter's jam was in every way superior to Aunt Polly's. That was one of the secrets of the trade. A dash of a particular spice here, a drop or two of a flavoring mixture there, just the right time of boiling, a mysterious fillip of the ingredients, and, lo! preserved perfection.

But now all that is changed. No longer is preserving-time an epoch in domestic history, taking its place with pig-sticking and soap-making on the farm, and house-cleaning and moving in the city. Instead of making her

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own jams, pickles, and catchups, the twentieth-century housewife buys them at the grocery. She may, it is true, put up a few jars and bottles of her own composition, but that is only as a sort of salve to her conscience, because she thinks it is cheaper thus and the product purer.

As a matter of fact, it is seldom either. Science nowadays has a way of doing things much better than by the old-style methods, and machinery is so much cheaper than the hand that it scarcely pays to toil for hours with an economy of only a cent or two at the end of it. In the canned-goods factories of the present, practically every operation, even the labeling, the trimming of labels and the boxing of goods, is done by mechanical devices run by electric or steam power.

How important a factor of American commerce the canning of fruits, fish and vegetables has become may be appreciated by a study of the statistics of its growth. In 1890, there were about a thousand establishments engaged in this industry, and the value of their output was a little less than forty-five million dollars. In 1903, there were two thousand five hundred establishments, and they produced about a hundred million dollars' worth of goods.

For a long time glass jars were used for preserved fruits and vegetables of every description, but gradually these were abandoned in favor of tin cans, as they could not withstand the necessary extremes of temperature, and were expensive, and costly in transportation. An objection urged against the use of tin, that the natural acids of fruits, vegetables and fish act upon it in such a way as to form metallic salts or metallic compounds injurious to health, was found, after investigation, to be groundless if good tin is used.

Even if the tin is not of the best, an ingenious contrivance, now coming into use in canning-factories, provides

against all danger of ptomain-poisoning from canned goods. By this invention a lining is fashioned of parchment, or some similar material, impervious to any of the liquid exuding from the preserved comestible. In this the article of food is placed, and is thus prevented from coming into contact with the tin of any part. The use of linings of this kind has long been recognized as a solution of the problem of possible ptomain-poisoning, but the high cost of preparing them by hand has precluded their general adoption. By the machine recently invented a single operator can fashion ten linings a minute, or about five thousand in an eight-hour day. In a practical test it was recently established that one operator with this machine — which, in brief, consists of a plunger, plates between which the paper is placed, and a cylindrical folder — can manufacture as many linings as sixty operators working by hand.

Unlike most other great industries, which, however, changed in detail, have existed in some form for a long period, the art of canning and preserving is comparatively new. Undoubtedly the thoughts of men were turned at a very early time to devising means of preventing articles of food from deterioration, but until the beginning of the nineteenth century the only methods employed to this end were drying and the use of salt and sugar.

The wars of Napoleon were directly responsible for the discovery of the efficacy of the hermetic sealing of foods in order to preserve them. Previous experiments by scientists had established beyond a doubt that the decomposition of food is due to the presence of a living organism known as "ferment," and in 1795 one Nicholas Appert stimulated by the offer of a reward by the French Navy Department for a method of preserving foods for sea-service, submitted to his government a treatise bear-

ing upon the means of killing this organism or precluding its presence. His method was to enclose fruit in a glass jar, which was then corked and subjected to the action of boiling water.

As the principle of Appert's method has proved by time and experience to be correct, and is that on which all canning and preserving has since been done, it is interesting to read his own words on the subject. He wrote:

"It is obvious that this new method of preserving animal and vegetable substances proceeds from the simple principle of applying heat in a due degree to the several substances after having deprived them as far as possible of all contact with the external air. It might, on the first view of the subject, be thought that a substance, either raw or previously acted upon by fire, and afterward put into hot bottles, might, if a vacuum were made in those bottles and they were completely corked, be preserved equally well with the application of heat in the water-bath. This would be an error, for all trials I have made convince me that absolute privation of the contact of external air (the internal air being rendered of no effect by the action of heat), and the application of heat by means of the water-bath, are both indispensable to the complete preservation of alimentary substances."

The early manufacture of tin cans for preserving purposes was very crude. The bodies simply were cut with shears and the side seam made with a plumb-joint, and then soldered together. Heads were made to set into the body, and were soldered in place in a very primitive fashion. One hundred of these cans were considered a good day's output for an average workman. Now tin cans are made by labor-saving devices, which have re-

duced their cost enormously, all parts being made and put together by mechanical apparatus.

Although glass and crockery jars have been largely abandoned as receptacles for preserved vegetables and for many kinds of fruits, they are still employed for pickles, catchups, jams, and the choicer grades of other kinds of preserved goods. Some of the larger concerns engaged in the manufacture of this class of food have their own glass-factories, as well as their own cooperages and repair shops. As many as two thousand persons are employed in one or two of the principal plants of this sort.

Each establishment has its own distinctive quality of output, and the maintaining of a uniform character of goods requires a strict adherence to recipes for ingredients, and to rules for packing. All bottles of mixed pickles, for example, the product of any particular factory, are uniform in number, arrangement and color of contents. A model is learned by each packer, and the bottles are filled with a precision which precludes any haphazardness of method.

Pickles and whole fruits are put in the bottles or jars by hand, but catchup, baked beans, peas, and the like, are handled by machinery. A catchup-bottling machine is a quite perfect piece of mechanism. A silver-lined pipe leads the prepared mixture from a large reservoir above and allows it to run into the bottles in a continuous stream as they pass beneath its mouth. From fifteen to twenty-one are filled at a time. As the bottles are filled, they are corked by machinery, and then placed by an operator in a conveyer which passes them along to a "capper," who dips them in melted wax and places a tin-foil cap on each. The conveyer then carries them through a sheet-iron tunnel, where they are washed by

jets of water which shower them on every side. They are then ready for labeling.

Cans for baked beans are filled in similar manner, the proper amount of tomato sauce being put in by machines through silver-lined tubes while the cans are on the conveyer. Caps are placed on each can by hand, and the train bearing the filled cans passes through a sealing machine, where they are heated by small gas fires underneath. There they are soldered, twelve at a time. Then they are conveyed to a washing machine, where they are washed and cooled, and afterward stacked in iron baskets. The latter are then lifted by pneumatic cranes and placed in large retorts. After being hermetically sealed, they are subjected for a considerable length of time to live steam under great pressure, by the action of which they are thoroughly sterilized.

The cooking of fruits and vegetables for canning is now done in large copper kettles, having a steam jacket surrounding the lower half, which insures an even degree of heat. Any desired temperature can be obtained and the heat regulated to meet requirements. Formerly the method of cooking was in open kettles, and the highest temperature obtainable was 212° Fahrenheit, the temperature of boiling water. A little later, a higher degree of temperature was secured by the addition of common salt to the water, and this was followed by the use of chloride of calcium, by which a possible temperature of 240° was obtained. Under this process, however, the cans became discolored, involving considerable expense in cleaning them.

A closed-process kettle to cook the goods by superheating water with steam was shortly afterward invented, and next came the present style of kettle and dry steam.

The canning of corn is so extensive an industry that it

deserves description by itself. About four million dollars a year represents the value of the corn bought from farmers by the various corn-canning establishments of the United States. The corn-canning industry belongs principally to two widely separated sections — the New England states, particularly Maine, and the middle western states. The New England canned corn is of the sweet white variety, while the western corn is yellow and less succulent.

Corn canning is now so systematized that the canning companies make annual contracts with large farmers for their yearly yield of marketable corn. These contracts are signed at the expiration of one season's business for the next year's growth. Then, as soon as the corn crop commences to mature the canners send representatives, known as field men, to make an inspection. Each field man watches the crop within a given area, and offers personal advice to each farmer in his territory as to when it should be gathered. Strange as it may seem, a lapse of even three days in the harvesting of the yield may make an important difference in the quality of the corn. If allowed to grow beyond its point of greatest succulence, it becomes tough and dry.

The work of canning corn is done almost wholly by machinery, in which many improvements have been introduced within the past two years. Formerly the corn was cut from the cob by hand, the grains then being placed in the can in a raw condition. After cooking for some time in the can, the latter was punctured to permit of the escape of the steam, and after resealing was given another boiling. Now the corn is partly cooked first and then is put into the can while hot, the final cooking being given in a retort or steam bath.

Twenty-five million dollars' worth of preserved fish

was the output of the fish canneries of the United States in 1903. Of this amount, the New England states contributed a little over ten million dollars' worth; the Pacific states, seven millions; and Alaska, five. More than two hundred million pounds of fish were preserved, of which Alaska supplied about sixty million pounds; Maine, fifty million; Washington, forty-five million; Oregon, seventeen million, and California, four million.

Few who enjoy the product of the sea which comes to them in gaily labeled cans, with a picture of a salmon or some other denizen of the deep holding the place of honor, know by what various methods the fish are taken from their native element and how many the operations are by which they are prepared for market. As in the canning of fruits, so with fish, mechanical devices have supplanted hand labor at every turn. Even the good old way of catching the fish with a hook or net has been largely discarded, and "machinery" now entraps the luckless victim of man's incessant search for food.

An ingenious contrivance which is used in catching salmon in the Columbia River, Washington, is an illustration of this. It is called the fish wheel, and consists of wire scoops, fastened to the spokes of an apparatus resembling a huge axle with a pair of crude cart wheels attached to it. This is lowered into the river, at a spot where the current is strong, and about a third is submerged, the force of the water serving to turn the wheel. Long leads guide the unsuspecting victims within reach of the scoops, the danger being concealed by the rapidly flowing water; a turn lifts them into the air, when they slide into receivers and the wheel rolls on for more booty. Forty tons of fish have been caught during twenty-four hours by one of these wheels, and the only manual effort required is the removing of the catch.

The modern fish cannery is a huge structure, topping rows of piles driven deep into the river or ocean bottom. The fish are unloaded into it from boats by a sort of single-tined pitchfork, and carried in automatic conveyers to different parts of the establishment. Within the building, the confused noise of machinery gives an impression of a manufacturing plant rather than of a cooking and tinning industry. Many improvements have been made within the last few years in the processes of canning fish. These have been chiefly in lessening the time of cooking, permitting the escape of heated air in the cans, softening the bones of the fish, and in the filling, capping, labeling and boxing of the cans.

The tests to which the cans are put to assure their being hermetically sealed are numerous. Besides immersion in water and other methods, a curious test is accomplished by a workman beating a rapid tattoo on the ends with a small piece of metal. The experienced ear of the workman — always a Chinaman — detects by the variation in sound of a single blow when all is not right within. This work is done so rapidly that to a novice the occasional tossing aside of a defective tin is quite inexplicable.

Next in importance to the salmon-canning industry of the Pacific states is the sardine-canning of Maine. Sardines — a general term applied to various small-sized fish — are found in various parts of the world, the best-known being the young of the pilchard, which are plentiful along the coast of France, and the young of the sea herring, found along the coast of Maine. The canning of sardines differs from that of salmon, in that the former are fried in oil and then placed in a can and covered with oil. Cottonseed oil mostly is used in the Maine canneries. The sardine is also put up in mustard, spices and tomato sauce.

The canning and preserving of oysters was formerly carried on as a part of the general industry of canning and preserving fish. Recently, however, the tendency has been toward differentiation, and the principal oyster canneries now engage in no other business. The "season" with them lasts about eight months, and during the other four months there is little activity.

The improvements in the methods of oyster canning have been as marked as in any branch of the canning industry. Formerly, the shells were opened by hand, with the oyster either in its natural state or scalded to make the "shucking" easier. Now, great piles of oysters are shoveled into cars with iron framework, twenty bushels or more to a car, and run into a steam-tight box, fitted with appliances for admitting the steam at any desired pressure. The steam is turned on for about fifteen minutes, when the chest is opened and the cars run into the shucking shed. There a deft turn of a knife in the hand of an experienced operator will open an oyster with remarkable dispatch. After being "shucked," the oysters are washed in cold water and sent to the "fillers' table," where they are placed in cans, weighed and hermetically sealed. Next the cans are lowered, in a cylindrical basket, into the "process-kettle," in which they are steamed in order to kill all germs or fermentation. Cooling in a large vat of cold water follows, and the oysters then are transferred to the labeling and packing department.

The average cost of handling a bushel of oysters in a modern cannery has been estimated at about twenty-eight cents. Baltimore is the center of the oyster-canning industry of this country.

PUBLISHING¹

By F. N. DOUBLEDAY



NOTWITHSTANDING its drawbacks, I still believe that the publishing of books and magazines offers a good chance for young men of imagination, ambition, and cleverness, and it is even fair to presume that the difficulties and troubles of publishing are in many respects more interesting than an equal number of trials in some other business.

As far as our experiences go, the young graduate who starts out to decide upon a career seems to be fascinated with the idea that in that it touches the literary side it must, therefore, be delightful — the literary aspect appealing to the imagination and the commercial to the practical.

In the successful working out of the problem we find that the imagination is quite as necessary to the business side, and that the ability to see visions and to work to the actual realization of them is the only thing that really counts. Books must not only be secured and printed, but a market must be discovered for them, and the ingenuity with which the readers are found is the final test.

The dignified day when the publisher sat in his office and decided from the manuscripts submitted which he should publish, and then sent the newly made book to the booksellers with the idea that they would do the rest,

¹ From "Careers for the Coming Men." Copyright, 1904, by the Saalfield Publishing Company.

passed away before this century was begun. If good books come to him and an eager public demands them and buys them through their own gracious good will, so much the better, and he may indeed be thankful; but if he waits for these conditions, he starves by the wayside. Perhaps the publishing business is changing (most things are) and the young men who can adapt themselves to the conditions that are coming and so be a little in advance of these changes and in line with them will reap an abundant success.

In a broad way it is true that the market for good books and magazines is larger than ever and rapidly growing; for a good many years traditions in publishing have counted perhaps most of all, and the average youngster has a hard time with traditions. But traditions go for less nowadays, and probably all publishers realize that there remain to be invented a good many ways of bringing the book and the reader together. How to sell the book — the single volume; novel, history, biography, or what not — to any really large proportion of the people who would buy if they knew of its existence is what the publisher wants to know. Books sold by subscription are more fortunate in this respect, since they do find a much larger proportion of the readers who really want and need a set of volumes — and a good many who do not.

To come to the present-day conditions, one may consider that a publishing house, to exert any lasting force, will have four well-defined fields of activity:

First — The general or miscellaneous book publishing.

Second — Books sold by subscription methods.

Third — Magazines.

Fourth — Educational or text-book publishing.

There are, it seems to me, more drawbacks to the first class than any of the other branches. One is that the

publisher of miscellaneous books must practically re-create his business every year. The profits (and fortunately, also, the losses) are most variable — a popular novel may sell 100,000 copies this year, and hardly more than a thousand or so next year. This is a vital trouble; the expenses are regular — each success leaves a train of new ones — and the sales or profits are irregular. Each book is a small or large speculation, as the case may be, and the residuum of books left at the end of the year which can be counted on for regular sale year after year is pitifully small. The merciful feature is that a novel which once gets the public's good will sells vastly more than in the old days, and is therefore more profitable, even considering the increased first expense of getting the public to know that it exists.

The obvious need, one would say, then, is to get those books of actual and acknowledged merit which will last, but it is not only difficult to get many such books, but the expense of making them, and telling the public of them, often takes a year, or several years, perhaps, to recoup the first investment. Meantime, the expense goes on at the rate fixed by the novel, that sells by the fifty thousands, we will say. All this can be remedied by getting for more serious work the sales secured for novels of temporary popularity. No doubt it can be done, but who will do it?

Another thing the coming publisher will do is to invent books which the public really wants, or thinks it wants, and he will manage to create the book to fit a need which only this imagination can foresee or guess at.

It has often been said that authors are as difficult to deal with as artists or musicians, but experience leads me to believe that the writers of books are no harder to do business with than the people who set the type and

print the books or the booksellers who sell them. An author's book is his baby — "the child of his brain," I believe the correct phrase is. Can it be considered strange that he looks with dread upon the critic who wishes to chop out sections and passages of his pages, or remake what he has worked out with care and labor? One might as well expect a mother to have her baby improved by reducing the number of its fingers or reshaping its ears. The surprising thing is that so often is the publisher's opinion sought for and his advice accepted so readily. It takes tact to deal with writers, but no more than it does to deal with any other person of spirit — a lawyer or doctor, let us say, or a trained nurse.

I fancy that it is the notion of having relations with distinguished authors which makes publishing appear attractive to the youngster choosing a career, but let him not forget that the pleasure and satisfaction of the relationship rest upon a *quid pro quo* — that the publisher must do his part with skill and ability to keep the connection profitable to both. Many times his best is not good enough; but, then, his conscience need not trouble him, and he can let it go at that.

The subscription work has the great advantage of dealing with the buyer direct. The number of customers, and therefore the opportunities, are greatly increased. It would take pages of this book even to mention the schemes which one must invent and are still to be invented to work out this to its full field of usefulness. Happily, as a branch of the business which has always been more or less looked down upon, it is making its way up rapidly.

In the old days a book which cost fifty cents, and a worthless one at that, was forced upon an unwilling buyer for ten times that sum by the sheer force of the ferocious

and untamed energy of a book agent. This old type of agent was a terror to the customer and to the publisher, and he robbed both the buyer and the seller with a high hand. His modern prototype scorns to sell by the aid of the hard-luck story, and he leaves his customer with some remnant of self-respect, so that he may again sell the same man. Uncle Sam, also, has intervened, and probably half of the subscription books distributed now are sold by mail, and the very best books are brought into homes on the so-called instalment plan.

How great this business is in the aggregate it is impossible to say, but it is known that about half a million sets of the Encyclopædia Britannica have been sold in this country — a book made primarily for the purposes of a people living three thousand miles away. This gives some indication of the possibilities. They have only been touched. Surely the books and the *personnel* will improve and buyers will multiply many fold.

Then we come to magazine publishing. A great publishing house needs at least one magazine — a half-dozen would be better if they might all have separate fields and the force could be gathered to run them all at a high level of efficiency. Sir William Harmsworth publishes forty or more in England, and all with success. The strong features of the magazine published in association with the books is too obvious to talk about, but even as a separate business it has many advantages over book publishing. For one thing, it has a more continuous life; once begun, with a fair share of success it is built up year after year on a solid foundation. The publisher has here also the pleasure of dealing directly with his customers, whom, if he is clever, he will interest as his friends both among his subscribers and his advertisers. His chances, too, are many sided and touch many departments,—the suggestion

of ideas in editorial contents, in illustrating, in plans for selling, and in drawing into his net the elusive advertiser who will not be coaxed until all the others have been secured.

The sale of educational text and college books is a thing quite apart, and here the young graduate often finds his opportunity, his college training and experience doing him an immediate and assured service. As a book once introduced has the chance for a long and steady sale, the risks are less constant and the effort less spasmodic.

One would say that all these branches should be in a healthy state of vigor in this perfect publishing house we are talking of. In profits probably the magazines would yield best, then the subscription department, then the text books, and finally the miscellaneous book publishing, which is so apt to be "Prince or Pauper," with the accent on the latter.

If one looks over the field, one sees opportunities in abundance. The men, young or old, who can really do things are few and far between, but the men who can explain with great force and detail and with ability why they have not done things are abundant. One comes upon a great many men who have ideas, and good ones, and can tell you how to work them out, but the men who have the ideas and can and do work them out are many days' journey apart. It is only by developing the men one at a time, letting the inexperienced newcomer try again the old schemes which we have tried in vain, and now and then he will make a success of some point which has been quite fruitless heretofore.

In the next decade the sale of books will certainly be vastly increased, and these are the men who will do it. One hears it said that nowadays it costs more than it did to launch a book. If by launching we mean selling a

large quantity at the start, this is unquestionably true, but the cost of typesetting, paper, printing, and binding has not increased. The real meaning is that more is expected in launching a book than was expected a few years ago, and this does cost money. The capital involved is perhaps greater, but capital for people who can make success is probably more easily secured than it ever was. All this being summed up, means that the opportunities are great for men who deserve them and for those who can not see and avail themselves of them the path is long and hard.

INSURANCE¹

By CHARLES F. THWING, LL.D.

IN insurance is found a noble illustration of the sociologizing process which is deeply touching American life and affairs. For insurance is a method by which certain perils which belong primarily to a single person are divided among many persons.

Fire insurance does not prevent the house burning — sometimes it serves to aid the conflagration — but it does prevent the owner from being the only one to suffer: the stockholders of one or several companies share in the loss.

Life insurance does not prolong life; but the absolute ceasing of the income drawn from the service of the one who dies is somewhat relieved by the payments made by the companies which have carried the insurance on his life; and these payments represent drafts made directly or indirectly on all the stockholders.

These widely distributed contributions made to repair a single loss illustrate the increasing movement of human society to regard the condition of one member of society as an object of interest to every other member. The individual loss is shared by all, and its damage is lessened; the individual gain is also shared by all, and its advantages become augmented. Such a movement as insurance, therefore, represents a form of human endeavor which may well win the strong and wise man as a worker.

This vast movement of insurance takes on many forms.

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Of course, fire and life insurance are the more common, but what may one not insure? One insures his steam boiler against blowing up, his plate-glass windows against breaking, his house and shop against robbers, his person against accident, his honesty and that of his clerks and associates against speculation and embezzlement.

The vastness of this work of insurance is manifested, too, in the variety of services which each of these different forms of insurance command. Every form has, of course, its financial and legal side. The financial side is quite as complex as is found in the business of banking. The legal side represents questions of manifold extent and relations. The medical element applies to life and accident insurance. The actuarial side teaches the fundamental laws of humanity in ways that demand both the accuracy and the comprehensiveness of mathematics and the teachings of psychology and of physiology. The statistical side belongs to all forms. Of course, the general administrative and executive sides cover all the work from the soliciting for a policy to the hour of its exposition or cancellation.

This work of insurance, of most serious importance for the happiness and the betterment of the race, therefore demands several noble elements of him who thinks of selecting it as his profession.

First. One should not say that insurance demands great intellectual power, without at once specifying the kind of intellectual power which it demands. The work of insurance demands an intellectual power which unites comprehensiveness and definiteness. The questions which are presented have many relations. The insurance man should be able to think out these questions into their several ramifications. These questions, too, are very practical questions. Many of them are narrow and small,

and each of them usually comes down to a very definite form. The mind, therefore, which is broad without vagueness, and precise without narrowness, represents the type which finds a noble field of usefulness in insurance. "A broad mind sharpened to a point" is the form to be desired.

The mind, moreover, which can be best described by the word inventive is desired in this service. The mind determined to make discoveries, to find new adjustments, to hit upon more economical processes for securing results, has a great opportunity in insurance. It is the intellect of the inventor, a type needed quite as much in the world of administration as in the world of steam and steel.

Second. In a number of forms of this profession, good manners are of primary worth; and in other forms, of much value. Good manners have commercial and professional significance. The one who is not a gentleman fails to secure entrance to opportunities in which his native and naked abilities would have a noble field of employment. The conventional gentleman may be, by reason of his knowledge of the rules and usages, most useful to others and himself. If he is only a conventional gentleman — if beneath good manners are hidden a corrupt heart and a hardened conscience — no opportunity can be worthily opened to him; but the conventional gentleman is just as likely to be the real gentleman, of noble moral nature and of high purposes, as is one who is ignorant of the practises obtaining among gentlemen.

Let the man who contemplates the choice of insurance as his profession, and, in particular, that part of it which relates to the soliciting of business, be assured that he is in heart and manner a gentleman. A writer in the "Fortnightly Review," ten years ago, intimated that the Englishman goes to Cambridge to learn mathematics and

to Oxford to learn manners. In the making of the best man in the calling of insurance, as in other callings, some might question whether the Oxford or the Cambridge product is the more precious.

Third. The man, moreover, who is entering on this vocation should assure himself that he has a will at once strong, persistent, and flexible. Of all forms of large endeavor, insurance is the one form in which the coöperative process has lost value. These vast companies, through which the greater share of the business is carried on, have not seen fit to unite themselves, as have the industrial interests of the country. Competition, not coöperation, is the rule. This competition is of the keenest, most determined, most aggressive type. The term "mutual," found in the titles of companies, belongs only to the members of the individual company, and not to the companies in their relation to one another. The excellent good nature which attends the competitive movement does not at all lessen its eagerness and persistence.

The candidate, therefore, who proposes to enter this calling should assure himself that he has a will capable of firmness, aggressiveness, endurance and flexibility. Such a will is able to adjust itself to diverse conditions and yet to pursue the main purpose without wavering.

Can the college fit men to enter upon the profession or business of insurance? Is it worth while for the one who proposes to devote his life to insurance first to go to college? To such a question I am more than glad to give an answer.

Of course, I know that my answer could not have the value which would be given to it by men themselves who are the presidents and managers of the great insurance companies. This question, therefore, I shall partly turn over to them. For several of them have, in answer to

my queries, given expression to their views. I shall largely quote from their opinions. One of them says:

“Other things being equal, a college education gives a man a special advantage in entering the insurance business, as it does in other branches of business, because the valuable training he has received fits him to occupy at once a higher and more important position than would otherwise be the case.

“On the other hand, there are many positions in the office of a life-insurance company which are best filled by those who make up for a lack of learning by the business training which they get by beginning as errand boys and rising step by step.

“It is true that every life-assurance company must have a corps of officers and a force of clerks at headquarters, but its real business is the sale of life assurance; and, as the business is practised, these sales are effected by agents who are stationed in all the important cities, who have representatives stationed at smaller places, or who travel from place to place. These are the men who transact the life-assurance business, and they outnumber twenty-fold those who occupy office positions.

“To a young man going into this branch of the assurance business, a college training is of infinite advantage. Nowadays, the life-assurance agent can not succeed if he is a bore, or if he lacks intelligence, or if his manners are uncouth, or if his intellect has not been sharpened by training; and, in addition to what the college student learns from books, the knowledge of men which he gains during his college career will be of inestimable value to him.

“All this is recognized by those who are at the head of our large agencies. Such men are on the lookout for college graduates who are willing to engage in our busi-

ness, and a number of cases might be cited where young men immediately after graduation have been able to support themselves by life assurance while they have been learning the business; and, the start once made, there is no limit to the prospects of a man who has the necessary energy and character.

“The progress of a small clerk in a large office is usually slow. His horizon is narrow, and his opportunities are few. There is, on the other hand, a broad field for the ambition of an industrious young man who takes up what has sometimes been called the profession of life assurance. While the highest intellectual powers may not be necessary to secure moderate success, there is no calling in which every talent which a man can bring to bear may be utilized to better advantage, and of two young men starting out in life, the one with the college education and the experience of college life has greatly the advantage.” ;

The president of another great life-insurance company, in speaking of the advantages possessed by a college graduate in entering the insurance business over those possessed by a graduate of the high school or grammar school, gives his opinion as follows: —

“First. He should have some knowledge of higher mathematics, which would enable him to get hold of the vital principles of the business much more quickly and more thoroughly than one who had no such knowledge could.

“Second. If he enters an office with the right spirit he would be able, on account of his superior advantages in the way of former intellectual training, and on account of his increased age, to impress the officers of the company with his intelligence and willingness to a much greater degree than the younger boy could possibly do. And I think that the average graduate of a college enters into

business with more enthusiasm, more determination to succeed, and more realization of the value of hard and intelligent work, than the graduate of the lower schools does.

“Perhaps the two most common hindrances to progress are intellectual narrowness and lack of ambition. They usually go together. The right kind of a boy can not graduate from the right kind of a college without having an open mind and high ambitions. And these two qualities, combined with what may be called doggedness, are necessary to ensure success. It is impossible to hold a good man down, or to push a poor one up permanently.”

From a different section of the vast field of insurance is borne similar testimony. Another president says:—

“Barring such employments as chemists in manufacturing establishments, metallurgists in mining or smelting works, and similar occupations in which a college or university education of a special nature is a prerequisite, I believe the insurance business calls for a broader training, or at least offers better returns to such training, than any other line of business.

“Perhaps I had better say, right here, that all these remarks relate to those branches of insurance known as the casualty lines, and with which I am familiar; while of the other lines—fire, life and marine—I know comparatively nothing, and do not pretend to speak.

“In the business of casualty insurance there is room, nay, necessity, for the exercise of the very best powers of analytical reasoning, and for the application of the broadest information in almost every sphere of knowledge. It is a business which has to do with other lines of business—manufactures, mines, lumbering, transportation, commerce—and all in an intimate and technical manner.

Moreover, some knowledge of law and of the human body is of vast usefulness in it.

“Without proper equipment, one enters life as heavily handicapped mentally as the prematurely born infant enters it physically. They may both survive and splendidly succeed, but the odds are heavily against them; and their success is in spite of their start, and not because of it.

“Indeed, the high-school graduate is very differently situated from one who has only a grammar-school education. He is four years older. Those four years have introduced him to the Latin, Greek, and probably French and German, languages.

“The structure and literature of his own tongue have been studied to some extent. The higher mathematics have trained him to some degree in orderly, analytical thinking. He has made some acquaintance with the sciences of physics, chemistry and physiology. His intellect has received an impulse and direction toward mental maturity sufficiently continuous and steady to warrant the expectation that he will keep up the trend of his own choice and effort. He has been to school for, say, eleven or twelve years. He begins to feel the ambitions, and desire the self-supporting independence, of manhood.

“Yet he is young enough to accept without humiliation the lowly position of office-boy at which almost every entrant upon an insurance career must start, and to perform its apparently trifling, yet really important and educational, duties without any sense of discomfort or of lowered dignity. And he is young enough to spend the usually unavoidable years of climbing and waiting for the successive promotions that lead to the top, and reach near that coveted position before he is too old to enjoy it.

“What advantages will he secure, for an insurance career, if instead of going from the high school into an insurance office, he first goes through college? His introduction to the languages, dead and living, his own and foreign, will ripen into a familiar acquaintance with their literatures, enriching his mind, storing his memory, refining his taste, increasing his facility of oral and written expression.

“He will become capable of reducing a problem to its lowest terms, its last analysis, by reason of the added years spent in the difficulties and intricacies of advanced mathematical studies. His knowledge of natural science, while not yet that of the postgraduate specialist, will be reasonably complete.

“Of what use are these things in the insurance business?

“Again reminding you that I speak of my own branch — casualty insurance — I reply, of the greatest practical use, of real working value, of themselves. Perhaps of even greater service is so fixing the habit and maturing the power of steady, intelligent application, that he who has had those added years of college training will, because of them, bring to the service of his employer a capability of dealing with the questions of underwriting that must compel recognition and reward.

“But what of his age? That may be, and often is, a disadvantage at the start. The college graduate must begin, like all other beginners, at the beginning, usually. And he is no longer a boy. He a man of twenty-two or more. It is disagreeable after the manliness of college athletics, the atmosphere of college society, the free-and-equal mingling with congenial spirits in the intellectual life of the upper school, to be ‘an office boy,’ to take orders from other clerks who may be younger in years and inferior in education, or from an employer who may be very

slow to believe that much business utility can be had of a college man!

“Besides, there is always the possibility of over-education, or intellectual snobbishness. The objections first urged will be only temporary. If there be common sense, and a manly, cheerful, teachable doing of the lowly routine duties of the first round of the business ladder, and if the young man has really profited by his college education, he will force recognition and promotion by sheer merit, and that right soon. The four years' advantage in the start, possessed by the high-school boy, will be more than overcome by the better training and equipment of the college man.”

Similar testimony from not a few of the other presidents of the one hundred great insurance companies of the United States could be easily produced. Sufficient has been said, however, to prove that insurance, as now conducted, represents a vast and complex undertaking. It is among the greatest and most important of all business endeavors. The prospect is that it will become yet vaster and more complex. It, therefore, demands intellectual and other personal qualities of a high order for its direction and carrying on. To men of such fortes, it offers a wide and high field of service. For the making of men of such fortes, it may outdo the American college as a helpful condition and force.

A GREAT HOTEL¹

BY JESSE LYNCH WILLIAMS

WHEN one goes to a hotel he tells his name and where he comes from, and apartments are given him for his private occupancy, and also the use of considerable space in common with other guests. He is supplied with what food he requires and the attention of a number of servants. When he has finished his sojourn he pays his bill and departs. The number of persons concerned and the variety of interests involved in that history are extensive.

There was a room clerk who dipped a pen in ink and handed it to the new arrival to register with, and a key clerk rang a bell and gave a key to a bell boy, who conducted the new arrival to one of the elevators, while a head porter ordered a trunk porter to take the heavy baggage up by the baggage elevator in the rear. Two elevator boys were told at what floor to stop, and the guest and his belongings were established in a room which had been put in readiness for him early in the day by a chamber maid, who did one part of the work, and a hall maid who did another part; and the results of their efforts had been inspected and approved, or disapproved of, by a housekeeper who had received a long list containing the number of his room as one of those that had been vacated, or "changed," as it was probably called by the room clerk, who made out the list.

And when the guests had dressed and had come downstairs again, he ordered a dinner from a menu composed

¹ By kind permission of the Author and Charles Scribner's Sons.

by the chef and edited by the steward and printed by the hotel printer on the top floor the day before. The dinner ordered, though perhaps not a large one, was prepared by twenty pairs of hands.

The man that opened the oysters had been doing nothing but open oysters from twelve o'clock that day, and he would keep on opening other oysters until twelve o'clock that evening. One chef superintended the broiling of the meat and another chef prepared the sauce for it, and still another pair of hands made the toast it was served on. And before the portion reached the kitchen it had been cut and weighed by the hotel butcher and then dressed and inspected and weighed again at the *garde manger*.

While waiting for his order to be filled there were scores of other human beings active in scores of other ways in the business of making him comfortable — from far up on the top floor, where bare-armed laundresses were singing as they folded the tablecloth that was to be spread for his breakfast in the morning, down to the coal-blackened stokers, forty feet below him, who were perspiring and shoveling from one to two tons of fine anthracite an hour under the boilers that supplied the power for making the ice in his glass as well as the light at his side and the warmth in the room.

Just outside the swinging doors, where the waiters disappear, sat the "checkers" at a high desk taking note of every order that went out to the kitchen and taking equally careful note of every portion that went into the dining room. Downstairs a squad of men were plunging big steel cages filled with soiled plates into patent whirlpools of boiling water and lifting them out again with a small-sized derrick.

Nearby the night force of silver cleaners, a dozen or more, were polishing knives and forks and making con-

siderable din as they tossed each piece into its proper compartment.

Out in the refrigerator the head butcher with an ulster under his white apron was cutting off single-portion steaks and weighing each one to see that it was exactly thirteen ounces, while in the hot bakeshop the roll baker was reaching into his oven with a long-handled paddle and pulling out pans of Vienna rolls and tumbling them into a huge basket for to-morrow's breakfast.

Upstairs, along the corridors, three or four watchmen with noses keen for the smell of fire, and eyes sharp for suspicious-looking persons, were patrolling their floors. In and out among the guests, dressed like one of them and apparently as mildly interested in everybody, strolled the hotel detective.

There were painters revarnishing chairs in the basement, and musicians were playing something from "Carmen" in the main-hall landing; the tinsmith was making ash cans, and the decorator was ordering flowers; the comptrollers were looking for discrepancies between the checker's stubs and the cashier's bills, and the plumbers were looking for leaks in the seventh floor water-main.

There were detachments of men that moved furniture, and women that made pillowcases; a force that did nothing but clean window panes, and a still larger force that did nothing but scrub the main floor, only these were just now asleep because they were to be called by the second assistant housekeeper as soon as the last late theater party had left the supper room and take the only chance they ever have to make things bright and clean and smooth, for the running of another twenty-four hours of this business, whose doors are never locked, and whose engines never stop from the day the house is opened up until it is burned or torn down.

In fact if you were to follow the matter out and count them all, from the man who spends the days of his life in winding clocks to the manager, or proprietor of the hotel, who has to think more or less about every one of these various interests, you would find that there were about as many persons employed in producing what is called hotel accommodations, as there were patrons to enjoy it, and this might prove surprising, because comparatively few of these several hundred are ever visible.

It might seem at first also that many of them must be idle a good part of the time, and that their duties would certainly overlap, and that they would get in one another's way. Their duties do not overlap, and none of them has a chance to get in another's way, and each is about as busy as he can be the whole of the time he is on duty, and for the most part they are on duty on an average of ten hours in every twenty-four.

When you stop to think of a few of the practical facts involved in all this, that all these employees with their diversified functions have to be engaged, tested, and discharged, or retained, bossed, and watched, and fed, and paid, you will realize that it requires something more than the efforts of a clerk or two with nicely brushed hair to conduct successfully the affairs of a large hotel.

When you further consider the increasingly sharp rivalry in this business, and the completeness and luxuriousness that modern society, or rather, modern competition, requires in hotels — in short, the amount of capital that is risked in the hotel enterprise, I think you will recognize that this is an industry requiring executive instinct in no small degree, and business talent of a very high grade, and that it is worthy of being taken seriously.

Like other big enterprises involving millions of dollars and employing hundreds of men, it requires certain general

business aptitudes and commercial perceptions, and like them demands a wonderful amount of specialized knowledge besides; but very likely the reason so many people think that anyone can attend to the business of a hotel is, as was hinted at before, because there seems to be so little real business to attend to.

None of the worry or friction is in sight, and viewed from the rotunda or the parlor floor it is all a simple matter. That is because it is part of the hotel business to hide all these things from view. It is not like a bank, or an importing house, where you see — and they want you to see — ever so many clerks scratching at books and the names and titles of officials on glass doors. The only place where the patron comes in contact with the business organism of the hotel is at the more or less conspicuous spot called “the office,” and he is apt to think that here the hotel is run. As a matter of fact the office and three or four clerks there merely act as a mouthpiece between the hotel and the public, and the hotel is not run there at all.

There are important-looking officials and high-salaried heads of departments, and roll-top desks and stenographers that one never sees or hears of any more than the buzzing of the circular saw in the hotel carpenter shop, or the meetings of the heads of the departments to discuss with the manager the business problems for the coming month.

Now the success of the actual running of a hotel depends, as does the success of running a railroad, or an express company, or a department store, or any other big affair, upon the attention to little things. Obviously the way to secure the proper and proportionate attention to many little things is by system, and the system that more or less invisibly operates in a hotel is a product of

many years' experience. Each hotel has methods of its own that grow up and are developed with it, though in many essential features they are all somewhat alike here in America, whether the hotel is conducted on the American plan, the restaurant, or the European plan, as it is called, or both.

In most large hotels the proprietor or manager, or whatever happens to be the title of the man at the head of the machinery that makes the commodity called hotel accommodation, has nothing at all to do with the carrying out of the details of the business. He is, of course, the guiding spirit. He is the one that originates the ideas that make up the character of the hotel. But his several heads of departments — in some hotels there are between twenty and thirty of them — when once he has chosen and tested them, carry out those ideas absolutely.

The chief watches the way it is done, and when he has criticisms and suggestions to make he does so only through the heads of the departments. In a well-organized hotel the head of it considers himself to have no more jurisdiction over the routine workings of the various departments, or of the servants that make them up, than his guests have — not so much sometimes. He does not even reserve for himself the privilege of discharging them, nor can he officially prevent the dismissal of any one of them by the rightful commander of the department. For only by giving absolute control can absolute accountability be got, and without a system constructed upon absolute personal accountability, no big industry full of detail can be conducted as it should be. And for the head of a hotel, as for the heads of nearly all big enterprises, one of the most serious and exasperating problems is that of securing capable and efficient men to carry out ideas which he knows are practicable, and which he feels

mathematically certain would bring success if he could only divide his personality into a score of parts, and station one at the head of each branch of the business organism.

But when he does get just the men he wants, they are given not only the entire executive control, but also considerable latitude as to the ways of developing their several parts of the business; they are encouraged to originate and experiment with ideas of their own. In fact the business is their business, and they must treat it as such, and not as if they were merely paid for a certain number of hours' attention. In view of this it will not be so surprising to learn that the steward of one of the hotels in this country receives the same salary as a justice of the United States Supreme Court, \$10,000.

He is worth that much to his employer. He carries on the business of his department as it should be carried on. In fact, in this case he is more than steward, he is the manager and practically master, too, of the whole "back" of the house, as it is called, the most intricate and responsible part of the mechanism, and accordingly the head of the hotel has just that much less to worry over, and just so much more time to devote to his own pursuits, which are, briefly, first, to watch the workings of all this many-cog-wheeled machine and take note on the action of its various parts; and, second, to observe how those who buy the article turned out seem to like it; and, third, to think up new schemes for making his goods still more attractive and his business still more lucrative. There is quite enough involved in that to keep a busy man very busy.

The work of a hotel is divided sharply into two main parts, called by those in the business the "front" and the "back" of the house. Though the front is five or six

times as large as the back, the back employs five or six times as many persons.

The front includes nearly everything the guest is likely to see, except the dining room, and one of the most important officials in this part of the machine, and certainly the most interesting one, is a woman. Most of the responsibility for the actual comfort of the guest, and consequently the reputation of the hotel, depends in great part upon the housekeeper.

Her duties are, like those of other housekeepers, to see that the affairs of the household are attended to as they should be attended to; only she has nothing to do with the meals or anything else that belongs to the back of the house.

But she has quite enough to do in her own department, being responsible for the order and cleanliness of every piece of furniture and every square inch of every one of the several hundred rooms in it. She must know by heart the individual character of each room, hallway, parlor, and closet in the house, and just where everything is. She is the one to note and report to the repair department the loosening of the threads of a tassel on the lambrequin, and the stiffness of the joint of the transom rod. She has the employing and discharging of all the servants of her department, and as there is a chamber maid to every twenty-five rooms, and hall maids or "paint-cleaners," as they are sometimes called, on every floor, and a large force of women constantly at work in the linen room, sewing and hemming and marking, and a still larger force which constitute the scrubbing regiment, besides special window and curtain and brasswork cleaners and polishers, it can be seen that there is quite an army for this one woman in general, even with the assistance of a couple of aides.

She is by no means a graduated chamber maid, or anything of that kind. She is generally a woman of considerable refinement and of taste enough to have a say in the furnishing and decorations. One of these housekeepers who was good enough to tell about her work kindly showed me an article she had written and published concerning the Victorian age in literature, and she said that she had formerly thought of adopting writing as a profession, but decided to try hotel housekeeping because there was more money in it, and this showed that she was a woman of capital good sense as well as culture.

Besides the house superintendent, who has the oversight of the general physical condition of this part of the house and is the employer of the bell boys, the hall men, the footmen, furniture men, and all the other male service in the front of the hotel, there are other more or less important officials in this part of the house.

There is in some hotels a head decorator who has charge of the picture hanging and furniture arranging and the like, especially for the receptions and dances and political meetings and other gatherings that are daily taking place in big hotels, and he is held responsible for perfect arrangements.

There is a head porter, who has twenty or more men under him who handle, sometimes, a thousand pieces of baggage a day, and he is the one to blame if any trunk is lost or misses a train.

There is a captain of the bell boys, whose fault it is when they are slow, and a chief of the pneumatic-tube system who can lay it to no one else if a message goes astray in any part of the house; and a head telephone clerk, and a telegraph operator, and a newsdealer, and a cigar seller.

Then there are the clerks that stand behind the counter

at the office, and answer questions and keep their patience all day. There are three of these on duty most of the time. The room clerk, the key clerk, and the package clerk. The cashier is near by, also. After a certain hour in the evening, the night clerk rules alone.

The room clerk is the one that welcomes you on your arrival, and keeps track of you and every one of the other inhabitants of the hotel with wonderful exactness. His position requires unlimited tact, and a genius for remembering names and faces. It is remarkable how much suavity he cultivates, and what an extraordinary memory his duties develop. It is a peculiar memory. If the package clerk asks him what is Mrs. Brown's room he will reply immediately "521" even if Mrs. Brown had arrived at the hotel only a few hours before. But his memory will not work backward, for if five minutes later he is asked who has room "521," he will have to look up at the schedule of names and rooms that hangs near the letter boxes. Nor would he be able to tell who was in "350," even if the occupant had lived there for months. But he is not likely to be asked that, and this is the very reason his memory is not trained to run in that direction.

The comptrollers and bookkeepers are very busy men, who work nine hours in a private office hidden away from the view of the hotel patrons. They do their day's work in an absorbed, business-like manner, and then hurry home like any other bookkeepers; and if anyone sees them coming in or out of the hotel they are probably thought to be guests of the house. They know as little about some parts of the house as the guests.

But most of the work is done in the back of the house as in any other house. The majority of the whole force on the pay roll is employed here, and the most complicated parts of the whole business are here maneuvered. Besides

that all-important branch, the kitchen and its accessories, the storerooms and bakeshops and refrigerators and wine cellars, the back of the house includes the engineer's department, which, for instance, in one of the latest and the most-talked-of hotels in New York City, employs thirty-five men and fifteen engines, that run seventeen elevators and supply the house with heat and water and the means of putting out fires, and of making twenty-five tons of ice and laundering twenty thousand pieces of washing in twenty-four hours, besides a large electric plant with a beautiful switchboard.

These engines — the important ones, at least — do not stop every six or eight days like the engines in an ocean steamer's hold; they start to work on the day the hotel is opened and run as long as it does.

Then there are the repair departments, the blacksmith shop, the tinshop, the paint shop, the cabinet makers' and plumbers'. These all are parts of the back of the house, and so are the dining rooms and restaurants and the bar. And so are the servants' halls, and the waiters', the mechanics', and the nurses' halls, where several hundred employees are fed from two to four meals each day in a way that will prove satisfying to them and at the same time satisfactory to the steward's employers, the company or the manager.

Of course, the chef rules the kitchen. But the steward rules the storeroom, and when these two do not admire each other woe betide the hotel. The organization of the kitchen force is as thoughtfully attended to as the designing of that spacious studio itself. System is essential here, if it is in any part of the hotel, and it seems to be in every part.

The chef is the acting commander, not only of the kitchen, but also of the bakeshops and sweetmeat depart-

ments, with their various heads and sub-heads, and he is just as important as he is generally imagined to be, and wears pearl buttons on his coat. But he himself does little more cooking than a general does shooting. His functions require the use of a lead pencil more often than a spoon.

He has an office with a great many books and records and pigeonholes full of papers. Out in the middle of the kitchen he has a desk also, and files of orders for future special dinners and luncheons and suppers which are to be hung on a bulletin board near by on their appointed days.

Here he stands during meal hours and generalizes the workings of his white-uniformed army. He devotes much of his attention to the specially ordered dinners going on in the large and small private dining rooms. In fact he considers these so important that he himself gives the orders for the various courses to the various head cooks along the range, he The Chef.

He knows, to the fraction of a minute, how long it takes to prepare each dish, and he guesses pretty accurately how long it is to take each one of them to be eaten. With these data he calculates and orders accordingly. As each course goes up he scratches it off the bulletin board and marks down the time of its departure.

The chef has an assistant chef, and he takes charge of the kitchen when his superior is not there during the day, and the *chef de nuit* rules the range during supper hours, which are sometimes extended far into the night when dances are going on upstairs. There are from forty to fifty cooks altogether along the range, in the bake-shops and confectioners' departments, and at the *garde manger* where the raw foods are prepared and the portions of meat dressed and put in readiness for the range.

The chef takes account of stock during the quiet hours of the morning, and hands in his requisition list every

afternoon to the steward, who consults with him about it, makes a few revisions and hands it over to the market boys every afternoon at five o'clock, so that every article ordered will arrive the next morning in time to begin the day with.

There are some big items of expense in conducting a hotel, and some serious problems. For instance, the yearly rental for our larger hotels, or, if the proprietor owns the property, the interest on the price of it, which amounts to the same thing, may be any amount from \$100,000 to three or four times that. That is a big item of expense; and one of the serious problems is that while the doors are kept open for business from one end of the year to the other no hotel is run on a paying basis for more than eight or possibly nine of the twelve months. The rest of the time they are not only not making money but steadily losing it.

The receipts during the summer and often during the winter holidays amount to almost nothing, and yet none of the big expenses are appreciably cut down. That rent, of course, goes on as steadily as the engines, a drain of \$1,000 or \$2,000 a week, whether there are twenty guests in the house or hundreds. The pay roll is cut down of course, half of it sometimes, but chiefly the bottom half; the waiters and other cheap "help" as they call it; all the heads of the departments with salaries of from three to six or eight thousand a year, and the head cooks, the clerks, and nearly all the other high and medium salaried officials must be paid every month, in summer as well as in the busy season.

It frequently happens that the comparatively small per cent of difference that makes the success or failure of a hotel is determined entirely by the system employed for stopping leakage and locating extravagance.

In the first place a system of checking obtains throughout the house. In no department is anything surrendered to anyone without a proper order for it, and then the delivery is duly recorded for reference and auditing. When the kitchen sends to the storeroom for supplies a requisition, countersigned by the chef, must be shown before, and, in some hotels, a receipt after, the articles are handed over. When the chamber maid goes to the laundry for clean towels she must first hand over a corresponding number of soiled ones, and the head laundress must take account of the transaction in her book, with the maid's number and the time of the occurrence.

In the dining rooms, cafés, and such places, the system is still more thorough. Even an order for a glass of milk or a piece of toast sets in motion considerable intricate machinery and requires the attention of three or four persons other than those directly employed in filling the order itself.

The customer's written order does not go directly to the kitchen. It must first go to one of the checkers whose desk is on the waiter's route to and from the kitchen. Here it is treated in different ways in different hotels.

Unless the waiter has this order blank with the checker's stamp, he can not get what he wants in the kitchen, and even after he has filled the order, the checker must inspect it on the way to the dining room and check each item off on the order blank. When the meal is finished and this bill, with the separate items added up, has been presented to the guest for examination, payment is made to the cashier, whose desk is in a different place from the checker's, and who adds it all up again, receipts it, files the big part and gives the little part to the waiter with the change. This stub he pockets for reference along with as much of the change as the guest sees fit to give him.

At the end of twenty-four hours these three memoranda, along with the original order in the guest's handwriting, all come together again. This time it is in the auditing or comptroller's department, where they are compared for the purpose of disclosing possible discrepancies, and examined to bring out mistakes of overcharging or undercharging. These stubs and bills keep coming in all day long from various parts of the house. In some hotels twenty or more checkers and cashiers are employed in the dining room, cafés, and dumb-elevator service.

Naturally, the heads of different hotels have just as different ideas in regard to the best policy for success in their business as the heads of other enterprises have in regard to theirs, and the circumstances that condition those ideas are about as various also.

But there is one motive that inspires every kind of hotel so universally that it is a sort of axiom in the business. It is this: "It always pays to please the guest at any cost." Rather lose the profits of a dozen patrons than the good will of one of them!

Hotels provide all sorts of things to make patrons contented. And the managers take all sorts of means to find out how their efforts are succeeding.

And they must attract them. This is another point.

Simply pleasing them is all well enough as far as it goes, but it does not go far enough. There are, as the hotel man well knows, a score of other large hotels not far off with many floors full of many rooms which other hard-working hotel men are striving to keep full, and he has to do something more than merely give satisfaction to get success in modern hotel competition.

So they try not only to satisfy all wants, but they create other wants to satisfy. They spend large amounts of money to introduce an intricate and unnecessary telephone

system throughout the house, or they secure some famous oil painting to hang up in the drawing-room, or spend a great deal of money and ingenuity on some other means of drawing attention to the hotel and make it talked about. It might be said that another axiom is "Every dollar spent in such a way that it will show is money well invested."

REAL ESTATE¹

By WILLIAM CHESEBROUGH

IN the real-estate field there are many kinds of work and workers. A glance at the workers will show that the majority of the realty leaders are young men or men not much beyond the prime of life. The number of such men will undoubtedly be greatly increased in the near future, for the realty market is particularly in need of them, and the future it holds in store appears bright.

The youth who enters the real-estate market in hope of reaching a top notch should be no weakling, or yet wanting in a fair education. He must have a resolute will, an energetic disposition, and a fair memory for dates and figures. He should also be a close observer of human nature, be courteous in manners and appearance, and, furthermore, should be able to cultivate a cheerful way of taking up and mastering the details of the realty market. For that young man success is almost assured, and, even if he should fail to attain his ambition, he will be free from the remorse of spirit which follows a faint-hearted effort crowned with a bitter disappointment. It may be said that the picture here drawn is that of the perfect young man; but that is the kind to whom will be offered in the realty market the choicest places and the most important work in the near future, and in the coming generation of business men.

Physical stamina is an important requisite to success

¹ From "Careers for the Coming Men." Copyright, 1904, by the Saalfield Publishing Company.

in the realty field for many reasons. Simply to keep run of the market is a tax on a man's strength. Seldom does a day pass without a fair number of transactions being reported. Among these will be auction and private sales, building loans, plans for buildings or alterations. Then the transfers of titles, mortgages, lawsuits, and mechanics' liens recorded demand attention. Taken together, they should, in a certain sense, reflect the present and probable future condition of the market.

Every well-regulated office has books in which such transactions are recorded for future reference, and the chief value of these books depends upon their accuracy. If the transactions of any day be read in a careless manner the indifference shown by the reader to his business interests may not only cost him many hours of unnecessary labor later but also pecuniary loss. No man, unless gifted with a marvelous memory, can be expected to remember the lesser sales or transactions of a previous year, but he should be fairly well posted on the greater sales of the past, which have, or are likely to have, bearing on the present or immediate future.

By close attention to the records of every day the observer will have a general idea of values, and by forming comparative tables of previous and present prices he will learn whether land in certain sections has grown cheaper or dearer. From this knowledge he may be able to find for himself the causes which have wrought the changes. There are some men who make specialties of particular districts, as brokers, operators, investors; but, while thus placing limitations to their business sphere, they can not (without running great risks) overlook what is taking place around them.

A man may become a specialist in the market and limit his field of operations. The specialist, however, is bound

by as many exacting duties as he who labors in the entire market. Ordinary reports of real-estate transactions do not furnish all the news that he must read. If possible, he should have a general idea of the news of the day, and especially that which affects the city or the place to which he confines his operations.

When a young man enters the real-estate market he may have considerable doubt as to the line of business to which he will pay the most attention. He may decide to become a builder. If the beginner has sufficient money to undertake building operations he will have to depend for many years on the advice of persons he employs to superintend the acceptance and carrying out of contracts. As he has had absolutely no experience in the building line, or, in fact, in any line of the real-estate market, how can he place reliance on his own ability to know what is good or what is bad advice? He may be carried to success by those he has gathered about him, but it is best to learn the fundamental work of such undertakings first, before assuming the work of an expert. If he takes up the study of architecture he will be better prepared for the important duties which he expects to assume.

Should he decide to confine his operations at first to buying or selling for himself or for other persons, his efforts will make him known to a large number of persons. He will hear the old and the young men in the business express their opinions about the property offered or to be bought. Some will no doubt tell him that they do not want the property at any price, others that the price is not only too high, but the location is undesirable for the plans for improving that they have in mind. He should receive these opinions and expressions with a wide-open ear. They may be hard to hear. They may feel worse than the sting of a wasp. They may act as a damper

to his energetic spirits. He should not be easily discouraged, however, but should be ever smiling and courteous. Cheerfulness and courtesy are infectious and may win for the possessor many lasting friends. Through these he may be able to increase the volume of his business or to get a firm start in the market. It does not always pay to meet with unusual success soon after beginning a real-estate career, as such success may lead to carelessness.

A national tendency to reveal the cheerful news and to help conceal the bad news will be found in realty circles. Great financial losses in the market can not be hidden, any more than can a long spell of inactivity in the sales or building lines be kept a secret from the public.

What is true about realty conditions here is more or less true about similar conditions elsewhere. How many persons have heard tales of large losses through realty speculations? Probably not one in a thousand. These tales may be called the secrets of the realty market. Many men and women have lost fortunes in the effort to make money in realty investments. The person who is not thoroughly acquainted with real-estate transactions may be inclined to put these losses down to a lack of the use of common sense, for has he not often heard of the vast fortunes which the Astors and many other well-known families have made from real-estate investment, and was anything ever said to indicate that any one else could not have been just as successful if he had lived at the right time to become identified with such transactions? In view of these remarks, the question may be asked: When is the right time to become identified with realty transactions, and are the prospects of success as inviting now as they were years ago?

A young man who intends to consider the whole country as his field for work would be well repaid by making



THE GUNNISON IRRIGATION CANAL

a careful tour of the country and a study of the people, of the financial and mercantile enterprises, and of the probable future realty growth and demand. Cities, towns, and villages are growing in the West like mushrooms in a night. The West is only in the infancy of its growth, and it will be considerably greater in many respects in the near future than it is now.

It seems that calamities by flood or fire or hurricane can not arrest for any great length of time this tendency to build and grow. The fire which almost destroyed the entire city of Chicago did not cause a serious setback to its growth. In fact, newer and better buildings rose on the sites of those that had been destroyed. In some sections of the country the greatest losses to life and property have been from floods. Not so very long ago Galveston was swept by mighty waters from the Gulf of Mexico. Many times has New Orleans been in the throes of a yellow-fever or smallpox epidemic, and the officials of that city, in their efforts to wipe out the scourge, were forced to destroy many buildings by fire. These epidemics have not arrested the progress of New Orleans, and she has been growing rapidly, while medical experts have succeeded largely in stamping out indigenous diseases.

It is now a generally accepted theory that a species of mosquito is the cause of the spread of yellow fever. By wiping out the breeding places of this kind of mosquito, the danger from yellow-fever outbreaks is greatly reduced; with vaccine virus the medical world has a powerful preventive against smallpox. These references are given in order to show that the confidence of the persons who kept on building and improving such cities as New Orleans, — in spite of the yellow fever, smallpox, and other epidemics, — in the ability of brains to lessen if not to obliterate the

conditions favorable to such epidemics, was not misplaced. It was of the right kind.

Builders, investors, and speculators must assume certain risks, and some of these risks will be due to their opinion as to the realty growth of the section in which they have invested. For guideposts for the future most people look to the past.

Real-estate history shows unquestionably that the opportunities for real-estate success are to-day just as great as they were years ago, if not greater. The country is growing, times are prosperous, the majority of people are happy, and science and art are continually winning new laurels. Where are the signs that times will soon be bad, and that the upgrowth of the country is to receive a serious setback? Nowhere, absolutely nowhere.

It is not easy to answer the question of why these times present opportunities in realty fields equal to, if not better than, the earlier young days of the market. A man who sets out on a journey must have faith in his ability to reach his destination and to accomplish his object. Without confidence in his own prowess he would be poorly prepared to do what he hopes and expects to do, and his lack of faith in himself might bring ruin. The old and young men who think that the city or country has been overbuilt, and that the opportunities for success in realty fields are small, should turn their attention to some other line of business. In their very make-up they are unfitted to be part or parcel of the realty market.

Many years ago, when Twenty-third Street was considered to be a long distance north of the heart of New York City, the owner of a large tract of land at Gramercy Park decided to improve his property or to take steps looking to such an improvement. The northward growth then was slow — so slow, in fact, that extraordinary meas-

ures had to be used to quicken the movement. One of these measures was to offer titles to small parcels free and clear, if the one who received the title would swear that he would build a house for his own occupancy on the property, or would improve it in such a way as to enhance its value.

This is taken from the writings of some of those who lived in those days and who wrote about the conditions existing then. They show how little confidence was placed by the general public on an early and profitable development of what was then the outskirts of the city. The lack of confidence may have been largely due to the poor transit facilities. Trolley and elevated-railroad lines and cable roads were unknown in those days. With these vehicles of locomotion, towns and villages which not long ago were thought to be a great distance from the center of the city are within easy reach. Moreover, the cost of journeying to them is much less than it was some years ago. Owing to these facts, the demand for lots in nearby towns and villages is considerably greater than when it was a long, tedious, and costly trip to get to them. The demand for property in the suburbs is growing rapidly, and the value of the real estate of the towns and villages has risen to unexpected marks in recent years.

Similar conditions prevail throughout the country. Remote villages, towns, and cities have been brought close together by means of trolley lines or better railroad facilities. Every such improvement, except in those instances where a rapacious railroad company has laid railroad or trolley tracks on a road or avenue which should never have been used for such purposes, has had a general beneficial effect on real estate. Who can say how much closer towns and cities will be brought by future developments of the trolley and railroad systems, and especially by the automobile?

A well-known man of conservative mind recently said that he thought it would not be many years before there was an almost unbroken line of splendidly built houses along the Atlantic Coast from Maine to Florida, or, in other words, a city extending from the north to the south limits of the country. The same writer also said that it would not be long before the whole of Long Island was thickly populated.

These brilliant pictures of the future may be full of false colors, and therefore practically worthless. But it is self-evident that large tracts of land are only just being opened up by the building of trolley lines and railroads and by the offering of cheaper fares. The better towns and cities are united by this means, the greater becomes, under ordinary conditions, the business life of the places affected. Has the business of any city or town been known to have decreased on account of the extending of trolley or railroad lines so as to tap outlying districts? No such case can be recalled. In this real-estate prosperity of the future it is almost a certainty that young men will share largely, and will be well paid in a financial sense.

THE BOOT AND SHOE INDUSTRY¹

By WILLIAM R. STEWART

PREVIOUS to 1845, when the first leather-rolling machine was applied to American shoemaking, this industry was, in the strictest sense, a hand process. Now, hands come into play only in the guiding of machinery. In no other branch of manufacturing has there been so strikingly displayed the remarkable progress of the present age.

Yet shoemaking can take rank as one of America's oldest industries. For it is a fact of record that the good ship "Mayflower," in 1629, brought to these shores one Thomas Beard, a shoemaker, with a supply of hides and a document accrediting him to the governor of the colony at a salary of ten pounds per annum and a grant of fifty acres of land. Ten years later, another cobbler from England, one Philip Kertland, came over and set up a shoemaker's bench at Lynn, in Massachusetts, famous in the years to come as the greatest shoe center in the world.

Statistics are lacking of the number of pairs of shoes which the Americans of half a century ago wore out in a year's travels, but in 1903 it required two hundred and sixty million pairs to go around. More than two hundred million pounds of hides were used to make the sole leather; three hundred million square feet of goatskins were employed in the uppers; fifteen million pounds of calfskins and kidskins were used, and one hundred and fifty million pounds of grain and other side leathers.

¹ From "The Cosmopolitan Magazine." Copyright, 1905, by the International Magazine Company.

The shoemaker of fifty years ago was an all-round craftsman. He built his shoes, one at a time, from the first hand-cutting of the leather to the final hand-driving of the completing peg. He spent seven years in apprenticeship before he began to make shoes on his own account.

More perfectly fitting shoes can be made to order by machinery now than the most skillful shoemaker of the past could produce by hand. In its early stages the factory system treated all human feet alike, but now a person may have his foot measured and drawn at a local dealer's, the drawing and measurements sent to a factory, perhaps thousands of miles away, and the shoe comes back built entirely by machinery and fitting like a glove.

When an order for a pair of these specially made shoes is received at a factory, it is entered on the books and a number is given to it. A tag is made out with a full description of the shoe required, as to size, quality of leather, thickness of sole, and other particulars. The leather selected, the tag is sent to the cutting room and placed on a board before a cutter, who, by means of a flat, brass-bound pattern which corresponds with the number and style indicated on the tag, cuts the vamp, or lower part of the shoe. Leather and tag then pass to a second cutter, who cuts the top, or quarter, and so on to the end, each workman cutting a different part.

From the cutting room the shoe is sent, with its tag, to the fitting or stitching room, and from there to the lasting room. From the laster's table it goes to a machine which cuts a channel in the insole, to which the upper is next sewed by machinery. Then the shank is tacked on, a filling is pressed in until the bottom is perfectly level, the welt is stitched around the outside of the insole, the sole is tacked on temporarily, and a machine trims the edges; then the sole is stitched to the welt, the heel is

glued on, nailed, trimmed, and slugged — all by machinery — and the final touches of smoothing and polishing are accomplished in the bottoming or finishing room.

The shoe has been made exactly as ordered, and fifty different men have had a part in its construction. Through each stage of its manufacture a record has been kept of the work done, and when the order returns to the accounting room the story of each individual workman's share in it is ready to be placed upon the records.

So finely is the system of recording carried out in the modern shoe factory, that should a pair of shoes ordered by a person in Seattle and made in Boston be found to be unsatisfactory, the blame can be traced back across the continent to the particular workman who carelessly or for some other cause permitted a few stitches to drop or imperfectly drew the uppers over the last. By the same system is kept an account of every element of cost, carried to the fifth decimal point, in the production of every shoe on every day of the year.

About two hundred thousand persons are employed in boot and shoe factories in the United States at the present time, and the annual value of their output is more than three hundred million dollars. There are some seventeen hundred active establishments in operation, and their capitalization is one hundred and twenty-five millions. Eighty million dollars were paid out in salaries and wages to employees in 1904.

In no other industry has the development of machinery caused a more marked reduction in operating expenses than in bootmaking and shoemaking. To such an extent have mechanical improvements increased the capacity of the factories that fewer hands are now employed in them than was the case ten years ago, despite their greatly increased output. Women, too, have largely taken the

place of men in operating the lighter machines, while children now perform the work that women were doing heretofore. Notwithstanding all this, it costs more to manufacture shoes now than formerly, because of the great increase in the cost of materials.

Through all the centuries during which the shoe in some form has been worn, down to the year 1845, no shoemaking machine which proved of any practical value was invented. In 1845, however, was introduced a leather-rolling machine, with which, in the words of the enthusiastic chroniclers of the event, "a man could do in a minute what would require half an hour's hard work with a lapstone and hammer."

The rolling machine performed the first operation of actual shoemaking — that of solidifying the leather. The invention of the rolling machine was followed by that of a wax-thread sewing machine, which greatly reduced the time required to sew together the various parts which formed the upper. Next came a machine which made pegs very cheaply, and another which drove them very rapidly. In quick succession followed splitting machines, for reducing sole leather to a uniform thickness; dieing-out machines, for cutting soles, taps, and heels by the use of different dies; a sewing machine which sewed the soles to the uppers; cable-nailing machines; screw machines, to fasten soles on the heavier class of boots and shoes; machines which compressed the heels and pricked holes for the nails; machines which automatically drove the nails; machines which prepared the insole, skived (trimmed to a uniform thickness) the welt, trimmed the insole, rounded and channeled the outsole, and automatically rolled or leveled the shoe; machines which sewed the welts, and machines for lasting.

There are two main divisions of work in the modern

manufacture of shoes. The minor of these is that of making turned shoes, which have only a single, thin, flexible sole, such as slippers and women's thin house shoes. The other division embraces all kinds of footwear in which the upper part is united to an inside and outside sole — goods ranging in quality and design from low oxfords to long-top riding boots, with all varieties of lacing, buttoning, and strapping.

The interior of a shoe factory of to-day consists of five or six main departments, immense rooms accommodating seven hundred or eight hundred employees each. In them are a hundred different kinds of machinery, which perform the various main and subsidiary processes of cutting, stitching, and lasting. They form a vastly different picture from the low bench with its compartments at one end for knives, awls, hammers and rasps, paste pots and blacking and rub sticks, which formed the "shop" of the American shoemaker of sixty or seventy years ago.

The tag system, by which special orders for shoes are filled, applies as well to the modern making of shoes in bulk. A single tag does for a large number of shoes of any one style and grade. From this tag, or ticket, the vamp cutter first blocks out the vamps (the upper front parts) and gives them, with the ticket, to the upper cutter, who shapes the vamps to the pattern which accompanies them and cuts the tops or quarters (the upper back parts). This cutting is done by dies or other cutting machinery. The side linings, stays, facings, or whatever trimmings are necessary, are then got out by the trimming cutter, and the whole made into a bundle and sent to the fitting department.

In the fitting department the materials for the shoe uppers are arranged in classes by themselves. Pieces which are too heavy are run through a splitting machine,

and the edges are beveled by means of a skiving machine. Then they are pasted together, having previously been marked for the purpose, and after being dried, go to the machine operators, the different parts to different machines. Each machine is adjusted for its particular work, and in an incredibly short time the upper is completed.

The part of the shoe that is finished then goes to the sole-leather room. Sole leather is different from the leather used in the uppers. In the latter many kinds may be employed, such as calfskin, goatskin, sheepskin, kangaroo-, porpoise-, and seal-skin, the hide of alligators, and horse hide. This last class of leather is known as "cordovan," because it was first successfully tanned in Cordova, Spain. What is called grain leather is also employed in making uppers, and is leather that has been made from the hides of neat cattle, split so thin as to be suitable for the same uses as soft leathers. Sole leather is obtained from the skins of large animals, such as oxen, cows, and horses.

In the sole-leather room, machinery performs the greater part of the work, as it does in the rooms where the uppers are made. By the use of a cutting-machine the leather is reduced into strips corresponding to the lengths of the soles required. A powerful rolling machine then passes over the strips, hardening the leather and removing from its surface any irregularities. By machinery also the strips are shaved down to a uniform thickness, and placed under dies which cut out the proper forms. The smaller strips of leather are cut by dies into heel pieces, which are joined together, to the thickness required, and after being cemented are put in presses and pressed into a condition of solidity. The top piece is not added to the heel until after it has been nailed to the shoe.

A lighter grade of leather is used for the insole than

for the outsole, and after being cut into strips and rolled it is cut by dies to the proper shape and shaved uniformly; then around the upper edge a machine makes in it a channel in which to sew it to the upper. The counters are died out and skived, by machine, and the welts are cut in strips. These strips or welts are later sewed to the lower edge of the upper, with the seam inside, and are then turned and sewed flat to the outer edge of the sole.

This sewing together of soles and uppers is done in the bottoming department, where the first operation is that of lasting, the uppers being tacked to the insole. Upper, sole, and welt are then firmly sewed together on a machine after which the bottom is filled and leveled off and a steel shank inserted. Next, the bottom is coated with cement, and a machine presses the outsole upon it. A rounding machine then trims it and channels the sole for stitching.

Another sewing, — this time through the welt outside of the upper, — leveling, and heeling complete the shoe, all but the smoothing and polishing.

No fewer than four machines are employed in heeling. First, the heels are nailed on in the rough; then they are trimmed into shape by a machine operating revolving knives; a breasting machine shapes the front of the heel; another machine drives in the brass nails and cuts them off flush with the top pieces, and an edging machine trims the edges of both sole and heel. After this the bottom of the sole is sandpapered, blacked, and burnished by machinery, and the shoe, having been cleaned and treed, is ready to be packed for shipment.

Although the tanning of leather is not properly a part of the boot and shoe industry, some of the largest shoe factories in the United States now operate their own tanneries. A few years ago, leather was tanned by soaking it for seven days in a weak solution of hemlock or oak

bark, then for six weeks in a stronger solution, the hides being moved every day or so; for six weeks longer in still stronger "lay-away" pits, and for an additional six weeks in the same pits filled with new bark, this latter operation being repeated three or four times. Excellent leather was the result, but it took up six or eight months' time.

Now the thickest hide can be tanned by chemicals in three hours. After tanning, the hide is thrown upon a moving feed table, which smooths and straightens it out and then passes it through a machine, pressing it evenly against a revolving cylinder spiraled with knife blades, and drops it out clean and without a cut or tear. A machine attended by only one man can press and scrape tanned hides at the rate of three hundred and fifty dozen a day.

The splitting machine is a wonderful new adjunct of the modern tannery. It can be adjusted to the thousandth part of an inch, and by means of a belt of thin steel, sharpening itself by touching an emery wheel as it whirls around, splits the hide with the deftness of magic into sheets as thin, when required, as tissue paper.

There is even a measuring and counting machine to relieve the tanner of the burden of mathematical computations. Formerly the proprietor of a tannery paid high wages to an expert to guess at the contents of his packages of hides when sold by measure. Now an unskilled workman hands the irregularly shaped pieces of leather to a little table-like machine which reckons with exactness the square contents in both the standard and metric systems.

It is noteworthy that few labor troubles have interfered with the boot and shoe industry in the United States during recent years. Such differences as have arisen have been uniformly settled between the employers and employees themselves, or by reference to state boards of

arbitration. This condition is a result of intelligent study of the industrial problem by the principal owners of boot and shoe factories throughout the country. In nearly every one of these factories there exists an agreement, signed by the company and by each employee, providing a method for the settlement of all disputes.

In the first place, any grievance of three or more employees is to be taken up by them with the head foreman of the department in which they work; if not satisfactorily adjusted there, it is brought before the superintendent; if still unsettled, it is referred to the manager of the company; and in case the company and its employees are unable thus to effect an agreement, both parties sign an application to the State Board of Arbitration and Conciliation, and the decision of the latter must be accepted as final and binding on both.

The factory buildings in which two and three thousand boot and shoe workers are employed are fitted with reading and writing rooms, gymnasiums where classes are regularly held, recreation rooms, and other aids to health and comfort. The entire architecture of these structures, too, is planned to afford perfectly ventilated and cheerful rooms.

The maximum yearly capacity at the present time of the combined shoe factories of the United States, on a basis of three hundred working days, is more than 450,000,000 pairs, and as this leaves a margin between possible output and home consumption of more than 130,000,000 pairs, an effort will soon be made to meet European liking for American shoes with shoes made in the United States.

THE AMERICAN WATCH INDUSTRY¹

By C. MONTGOMERY M'GOVERN



THE story of watchmaking in the United States is a story of triumph for the spirit of Americanism. Less than forty years ago a watch industry in America was a thing never dreamed of. England, Germany, and Switzerland had been making all the world's watches for centuries, since the first one was invented by Hele, and it had come to be the accepted belief that for any other country to try to compete with them would be an attempt so ridiculous as to make that country the laughingstock of the world. Two Americans had the bravery to enter the field, however, in 1850. The result is astonishing. To-day Americans are not only the greatest watchmakers in the world, but, in addition to that, they have practically no rivals worthy of the name.

Almost all of the first-class watches the world buys to-day are the product of American shops. Whenever a person wants a thoroughly reliable watch, whether in America, Russia, or Australia, he buys one with an American trademark. Why? Not necessarily because he has any particular fondness for the United States, but because any authority will tell him that, no matter what grade of watch he desires, he can not get a European watch of the same time-keeping quality for anything like the same amount that will purchase a timepiece made in the United States.

Foreign watch manufacturers can indeed make a watch

¹ From "Everybody's Magazine," by courtesy of the Ridgway Company. Copyright, 1900.

that will keep as good time as the best ones manufactured in the United States; but what they can not do is to make that timepiece for so little money. And no matter how much money the foreigners spend, they can not make a watch that will keep better time than an American article which can be bought for comparatively little.

The cheapest American watch costs a single dollar. Yet you can buy a German watch that looks the same for half the price. There is a big difference between the two, however. The American article is guaranteed to keep good time, while the German product may go if the owner is lucky. No foreign watchmaker can turn out a watch that he will guarantee, if he has to sell it as low as one hundred cents, and that the European consumers realize this is proven by the fact that even in countries where fifty-cent watches are made, the public buys more of the American dollar watches than they do of the home product, which costs only half as much. Perhaps it is only justice to the foreign makers to add that they do not intend their cheap watches to be considered seriously, but more as toys.

An interesting incident, which illustrates the high reputation abroad of American watches, happened near London not long ago. At the Royal Observatory at Greenwich, there is a high tower upon which is mounted a long steel bar, up and down which slides a large ball that can be seen for miles around on a clear day. Usually this ball is kept at the top of the steel bar, but every day at one o'clock (to the fraction of an instant) this ball drops to the bottom of the bar, and in doing so not only announces to all who see it that it is one o'clock, but it also "breaks" an electrical circuit, which in turn sets the time for the whole United Kingdom.

For years this has been going on, presumably without the slightest error; but one day, when a Londoner named

Thomas Wheate saw the ball dropping just eighteen *seconds* too soon (by his American watch), he was so convinced that it was the Observatory and not his watch that was at fault, that he told his friends that the Royal Astronomer had for once set the nation's time incorrectly.

As might be imagined, they one and all broke out in a roar of laughter at the absurdity of an ordinary American watch being a better timekeeper than the great clocks at the National Observatory. But this did not cause Mr. Wheate to be shaken in his faith in his American watch, so he sat down and wrote a note to the Royal Astronomer, relating the incident and asking if he were not right. To his gratification, a few days later, he received a reply from that high official in which he stated that the American watch was indeed correct, that by a curious accident the time ball had dropped just eighteen seconds ahead of time. Both the letters are now cherished objects in the office of an American watch factory to-day.

But let us find out the secret of how Americans have become the greatest watchmakers in the world. Up to 1850 every watch in existence had been made by hand. This in itself made a watch very costly, yet it had the further financial drawback that, all the pieces being made by hand, if one of the pieces — let us say a cogwheel — in a finished watch should be damaged, the owner of the watch would have to pay a jeweler a big price in order to have him make a new wheel. In addition, the owner had a long wait.

In those days a certain part of one watch would not fit into the same part of another watch, even when the two watches were made by the same maker and were theoretically exactly alike. This was on account of the fact that, no matter how skillful a human hand may be,

it can not make a number of pieces of mechanism of the same kind so exactly alike that they will all be interchangeable in so carefully and minutely arranged an object as a watch. Every watchmaker for a couple of centuries had been aware of this fact, and although they would have liked to lower the price of watches, and thus make them more popular, the makers had all come to the conclusion that good watches would never be materially cheaper.

That was well enough from the European point of view, but in 1850 two Boston jewelers began to think the matter over from the viewpoint so characteristic of our nation, to wit, if the old beaten track to reach a goal is found to be too winding, why what's the matter with blazing new pathways — pathways that will be direct cuts?

"Custom," they said, "ordains that watches be made by hand; but if silk and shoes and other things that used to be made by hand tools can now be so successfully made with machinery, why on earth can we not make watches in the same up-to-date fashion?" Such a proposition appears so simple to us of to-day that we would naturally suppose everybody of fifty years ago welcomed the suggestion with open arms. But not so. A factory was built near Boston, and \$20,000 was invested in what was then considered wonderful machinery, and although every one began to talk of the new idea in watchmaking, the jewelers, even in this country, considered the scheme so wild that they would not handle the watches, and strongly urged their customers not to throw away their money on them.

So the concern failed, and not until the Civil War broke out, and patriotism was running higher than usual, did Americans begin to try their home product. From that time on the popularity of United States watches grew

steadily, and in such great strides that in these comparatively few years they have become the standard for quality and price the world over.


Wonderful machinery is not all the secret of the American watchmakers' stupendous success. Combined with it all along has been careful but radical and quick business generalship. Half of each factory's brains is devoted to devising the best models of watches, and the other half in devising ways of manufacturing watches like these models at the smallest cost, in the shortest time, and marketing them in such enormous quantities that the cost of the watches individually is kept down to the extreme minimum.

The master watchmaker of old was a mechanic, who often could neither read nor write, who was satisfied to work with his own fingers as much as with his brain, and who looked no higher than for a living profit for himself and his few employees. The master watchmaker of to-day is, indeed, a mechanic who has started in at a dollar and a quarter a day, but he first got a college education and then worked his way up, until he no longer works with his hands, deriving higher satisfaction from the working of his brain alone.

The watch factories of the United States are not confined to any one section of the country, as they do not depend on any geographical condition for their success. Connecticut, however, has two big ones, both of which are at Waterbury. Massachusetts has one at Waltham and Illinois one at Elgin. Others are scattered over all the other manufacturing States.

It is a fascinating experience to visit a great American watch factory. It makes no difference which one is selected, for they are all practically the same. On the ground floor of the factory are the heavy machines that do the coarser work in the making of a watch, the machin-

ery becoming lighter and more delicate until the sixth floor is reached. Up there we find a corps of nimble-fingered girls operating tiny machines for the last test of the delicate hairsprings before they are placed in the watches.

It is not practicable to describe more than a few of the wonderful machines in a watch factory, so great is their number. A few specimens, however, will give a good idea of the rest. The case-making machine is probably the one that opens the visitor's eyes most widely. Take out your watch, if yours is a fancy one, and notice the beautiful curves and the delicate carving in the case. Would you ever have supposed that the whole thing was done in a single second? 

In a watch factory a boy picks up a strip of metal twenty feet long, four inches wide, and as thick as a cardboard, and has only to push the strip gradually into the mouth of a machine, when the machine will spit it out on the opposite side in the form of circular, flat disks at the rate of about five thousand per hour. A second boy has only to feed these disks one by one into another machine from which they quickly emerge finished watchcases — curved, embossed, milled, and engraved. (I speak here only of cases for open-faced watches, having snapbacks, and no "interior dome." Other classes of watchcases require more work, but it is all done with similar rapidity.) Forty years ago it took a skilled adult days and days to do the same amount of work as an unskilled pair of boys can now do in a few seconds.

Take up your watch and examine the stem; you will notice that it is a piece of metal with a hole through the center of its length, that it has two holes in its sides for the insertion of the ring that attaches the watch to the chain, and that it has some neat shaping near the end

where the stem joins the case proper. (I do not include the milled hump on the top of stem-winding watches.)

If the reader has ever stopped to think about the matter, he will probably have concluded that these stems are made by casting them separately in molds. If he does, he errs. Molding so small a thing as that would cost more money than the reader would be willing to pay. Accordingly, a machine is used which *cuts* these stems out of solid metal in so short a time that the spectator's eyes can not follow the operation when the machine is running at regular speed.

A rod of brass or silver or nickel, as the case may be, twenty-five feet long and one-half inch thick, is placed in the mouth of one of these machines, an electric button is touched, and off starts the machine. Without the further aid of human hands, even feeding itself, the machine cuts the rod into the lengths of watch stems, bores holes through the center of each, pares down the sides, puts the two ring-clasping holes in the sides, carves a deep circle or two, puts on a "shoulder" (by simply cutting away the adjoining portions of the stem), and out drops the finished stem into a box, where without the least further finishing it is ready to be placed on the watchcase. As each rod contains sufficient raw material for some three hundred finished stems, all these stem-making machines absolutely run themselves until that number of stems has been turned out of each; after that they require no further care than to receive a fresh rod.

One would think, too, that the bells on an alarm clock—these are made to a great extent in some American watch factories—must all be molded separately. But not so. You could not buy an alarm clock for seventy-five cents if its bell had to be made in that way. A strip of steel, plain and flat, twenty feet long and eight inches wide, is

fed into a machine, and out it comes in the form of finished bells at the rate of one per second for every machine.

There are some parts of a watch, however, which can not be punched or stamped into shape, although it would appear to the layman that such a way would be very easy. Take, for example, the little cogwheels. If these were stamped out the cogs would be so brittle that they would break off after a short usage; hence these wheels must each be shaped by *filing*.

To file these by hand files, however, would make each watch cost several dollars more, and that was the way they used to do it until an employee invented the steam file. By means of this machine several hundred plain flat disks can be taken at a time, run through its revolving file, and the whole lot of cogwheels finished in less time than it formerly took to file one cog in a single wheel. And notwithstanding the great speed, the machine-made cogwheels are more desirable than those made by hand; they are tougher, more exact, and any one of them is interchangeable in a watch for any similar wheel that has been damaged if the injured wheel was made by the same machines.

Perhaps there is no better way of conveying a conception of the vast importance of the machines in the watchmaking industry than to mention a few statistics.

To begin with, this machinery is very costly. In a certain big factory the machinery alone cost a million dollars, to say nothing of the cost of the buildings to house the machinery and the cost of the apparatus to give them power. In this connection it may be interesting to note that "electricity is king" in all big watch factories — running all of the machines, as well as lighting the place and keeping it cool. But the results obtained from the machinery are truly amazing.

Although it requires only eighteen hundred people to do all the human labor in the factory — many of them never touching a machine — there is a total product every working day in the year of at least three million individual pieces; that is, once the machinery is installed it enables the comparatively small number of eighteen hundred people, with small running expense, to turn out a billion wheels, cases, bells, pinions, etc., in a single year.

The machines are bewilderingly complicated in their arrangement, but so simple are their results and so perfect their management that, although the writer spent an entire day in the place, he failed to find a single screw, hand, spring, or other tiny object apparently out of place. Two million watches and clocks are shipped from this factory every year, and the cheapest one undergoes at least eight hundred distinct operations. Is it not wonderful that you can buy for a single dollar a watch or a clock that required eight hundred different kinds of operations to produce?

It would appear to many readers that it ought to be an easy matter for the foreign watchmakers to build up their trade again by installing machinery like this in their own shops. That would indeed be an easy matter if they could purchase the machinery; but they can not. No amount of money would induce an American watchmaker to sell one of his machines or tell how they are made. They are invented for the most part by each company's own employees, are made in the company's own shops, and to keep their mechanism a secret they are not even patented by the different firms. There is no fear of ideas being stolen either, for no stranger is ever allowed inside a big watch factory, and even the employees must not enter any room but their own. As for the employees in charge of the machines themselves, they are all selected

for their exceptional honesty, and no secret has ever leaked out through them.

As each machine turns out its given number of individual pieces — cases, stems, rings, etc. — they are brought in handcarts to the “assembling room,” down the length of which run four wide tables, at which sit, every few feet apart, several hundred nimble-fingered men and women, who put the parts of watches together as readily as a child puts together his house of alphabet blocks. The moment the last screw is set the watch starts off of its own accord. Then it is placed in a large glass case and kept under its assembler’s eyes for four whole days, and if it works correctly — as is practically always the case, the machinery being so true — it is sent to the “finishing room,” where it is placed in a case, provided with dials, hands, and given a final rub, after which it is sent to the “test room.”

In the latter place every watch remains at least four days more, running all the while, being wound by machinery every day. One day the watch lies flat, the next two days it lies obliquely, and for the remainder of the time it stands in a perpendicular position. It is subjected to days of alternate heat and cold, and to a number of other tests beyond the layman’s comprehension, and if after all these maneuvers the watch does not lose or gain more than one minute in the four days, it is passed into the “shipping room.” This is in the case of a cheap watch. For an expensive one, the test is materially the same, except that it must not gain or lose even so much as a minute in the four days it remains under the tester’s eyes.

STENOGRAPHY AND TYPEWRITING¹

By WILLIAM DRYSDALE



TAKE it for granted that if you determine to be a stenographer and typewriter you will desire to be a good one. And this is a profession that is not overcrowded. If you were to weed out all the incompetents and leave only the really good and capable operators you would be surprised to see how scarce the good ones are.

How you are to train yourself for this profession depends upon what you are already. If you have not at least a common-school education, the first thing for you to do is to get it, for without it you can hardly hope to be more than a living attachment to your typewriting machine. You can not know too much to be a really good stenographer and typewriter. Keep your eyes open, and read — read good books and read the newspapers. You must know what is going on, and what has gone on. Learn something about national and state politics and politicians; something about literature, something about art, something about mechanics, something about — about everything.

“Ah!” I think I hear you exclaim, “if I knew as much as that I should go into some other profession, and make more money.”

I am not so sure about that. This is a profitable profession for its professors who know something. I am not trying to show you how you can become a little pink

¹ From “Helps for Ambitious Girls.” Copyright, 1900, by T. Y. Crowell and Company.

and white machine at seven dollars a week. Thousands of girls get that far without any help at all, and apparently without any education, but they are never more than machines with flexible fingers. Such a girl is of no more importance to her employer than the hook she hangs her hat upon.

Do you doubt that? Then let us look at the inside of a large office for a moment. Here is a long row of girls, each with the machine in front of her, each playing off copy with the keys. As the manager looks down the row he sees one vacant chair, one idle machine. It is nearly ten o'clock in the morning, and Number Four, Miss Jennie, is absent. She may be ill, or she may have "thrown up her job," in the expressive office language; but no matter which. The cheap girls appear and disappear very readily and very often, and the manager knows what to do. He steps to the telephone and calls up the agency he deals with.

"Please have me a steno-typewriter here at eleven o'clock," he says over the wire.

"Yes, eleven prompt. Female, seven dollars. All right, good-by."

And at eleven prompt the "female, seven dollars," is at the door smiling, and in two minutes more she is at work. There is not even a ripple upon the surface, except that Number Four becomes Miss Annie instead of Miss Jennie. Miss Jennie may be very ill or dead, but the world and the office move on. Is not that pure machine work?

You do not have to consider long to see why Number Four, Miss Jennie, is cheap. When she disappears the manager has only to ring the telephone bell and another Miss Jennie takes her place. Or if the whole row disappeared some morning a new row of girls would be in

their chairs within an hour. Or if the manager advertised, he would have fifty girls at the door to choose from. But he does not advertise if he can help it, because an advertisement brings so many applicants that they are troublesome. The "female, seven dollars," is abundant, and whatever is abundant is cheap.

That would be a discouraging picture if you were to be a "female, seven dollars," but you are not. You must fix a higher mark for yourself than that.

We have seen already how calm the manager is over the absence of Number Four. There was nothing in that to ruffle him, for such things happen nearly every day. If he had nothing worse than that to trouble him his managerial path would be smooth. But up at the front of the office is a large pen, or cage, or stall, made of polished oak, in which the president of the company has his desk, with his own private stenographer and typewriter at one side. It is, in short, the president's private office, with thick carpet on the floor; and the manager's face is troubled as he approaches the door and is reminded that Mrs. Jones also is absent. Almost time for the president to arrive, and no Mrs. Jones! There is something to bother a man.

Mrs. Jones is something more than the president's private stenographer. She is in reality his private secretary. But as a private secretary might reasonably demand a higher salary than a plain stenographer she is not given the title of secretary. That is no uncommon thing in offices. She is not only a valuable employee, she is almost indispensable, as we shall see. You will not doubt when you meet her that she earns her twenty-five dollars a week, and that the president would rather pay her forty dollars than lose her.

But Mrs. Jones is absent, and the manager is worried.

Can he go to the telephone and order up another Mrs. Jones for eleven o'clock? Indeed he can not, as he knows very well. Nor can he get another Mrs. Jones by advertising, in less than weeks of trials and experiments.

Hark! here is the president, and his highness is shocked at seeing Mrs. Jones's vacant chair.

"Come, come, manager, how's this? Mrs. Jones not here? Have you telephoned her? Not on the line? Have you sent a messenger? Well, send somebody to her house at once. Let him take a hansom, and bring her along if possible. My, my, this is unfortunate! There's that Chicago matter coming up to-day and she has the whole run of it. And look at these letters! Get her in some way, manager, and meanwhile send me in your best stenographer."

He looks helplessly at the pile of letters on his desk. There may be only fifty, or perhaps two hundred and fifty, and they must all be answered. Some are very important and very pressing. The substitute stenographer, female, seven dollars, or perhaps eight or nine, takes the vacant chair, and waits. There are twenty more stenographers outside, but the whole twenty can not fill the place of Mrs. Jones.

He takes up one of the letters, a drop in the bucket, opens and reads it, and begins to dictate:

"Mr. J. B. Haight, 16 Montpelier Avenue, Detroit. Dear Sir."

"J. V., did you say, sir?" the young lady asks.

"No, B., J. B. B for butter, beans, brains. J. B. Haight," he snaps, his temper warming a little every time he looks at the pile of letters.

"H-a-t-e, sir?" she asks.

He spells the name properly for her and goes on to dictate the whole letter just as it is to be written, as he knows

he must do to this stenographer. That takes a quarter of an hour, including the questions and corrections; and he makes a mental calculation of how long fifty letters will take at fifteen minutes each. He is like a steel trap before the first letter is finished.

Ah! but here is Mrs. Jones. Been detained by a little accident that is soon explained, and in no time she is in her own chair and the work really begins. Before she reads a line she rapidly cuts the end of every one of the envelops. Then how the letters fly! Just watch the process.

Without a second wasted she takes out the first letter and drops the envelop into the basket, and reads rapidly but distinctly. "No!" says the president; and she writes a big "No" on the bottom of the letter with a soft black pencil, and goes on with her next. The replies vary, of course, but they are all very brief. "No," "Yes," "All right," "Yes, glad to oblige him," "Can not make such a contract in the present state of the market," "Will take it under consideration," "Very sorry, but impossible."

So the answers go, not at all such answers as are to reach the correspondents, but just the general tone of the answers, and in much less than an hour the letters are out of the way. Any one who could read and write could have done this work so far, but not what follows. There is a still smaller room adjoining the president's private office, and into this Mrs. Jones calls one stenographer after another, only one at a time, and dictates a few letters to each. The single word "No," for instance, at the bottom of the letter she is answering gives her the keynote, and she dictates a polite letter, acknowledging the receipt of the inquiry, expressing the company's regret at the impossibility of complying with the request, and explaining, perhaps, why it is impossible. Whatever the tone

of the answer, it is well expressed, and in the most polite language, even if the letter it answers was a saucy one.

Big companies do not send saucy replies to saucy letters, because it is not good policy, and it is the private secretary's business to do everything politely. The president may show by his brief remark that he is annoyed by a correspondent, but no matter; the answer must be perfectly cool and polite, and it lies with the secretary to make it so.

Before lunch time answers have been dictated to all the letters, and the girls in the row are busy writing them out, Mrs. Jones keeping a few of the strictly confidential letters to write herself.

After luncheon the president has a dozen letters to write that are not answers to letters received. For each of these he gives Mrs. Jones only the substance.

"Tell Barnes I will meet him in the St. Charles Hotel, New Orleans, next Tuesday morning, at 11 o'clock."

She knows who Barnes is, knows the address, and writes the letter, and many others in the same way. By the middle of the afternoon all the letters are ready, and the president signs them, and Mrs. Jones puts them into the proper envelopes, and they go into the mail box.

Meanwhile the Chicago matter has come up, and the president has found all the papers concerning it laid out in order before him. The statistics needed Mrs. Jones looked up last night and wrote out. She has talked with twenty callers who could not see the president when he was busy. She has been discreetly in her own little room when the president was talking with one of the directors. She has "taken" important documents at their dictation, and written them out herself. She has made a list, as far as possible, of the important matters to come up to-morrow.

Do you see the difference between Mrs. Jones and the "female, seven dollars"? She is plain to the eye, compared with some of the other girls, and remarkably silent. She hears many things, but tells nothing. She understands her business, and the president knows that she understands it. She relieves him of all the routine work; it is only the brains, the experience, that he need furnish.

Yet very likely she is not so rapid an operator as some of the others. Do not imagine that speed is everything. When she writes a letter no changes need be made. You do not see her running to the big dictionary, though the other girls have almost worn a track in the floor going to the dictionary stand to see how words are spelled. There are a thousand Mrs. Joneses in New York, and hundreds in other large cities, and you can be one of them if you make the effort. She is better educated than the other girls in the office, and has more general information. If you desire to be a Mrs. Jones you must know something.

She began the technical training for her work much as the others began, and as you must begin. The operation of the typewriting machine needs little comment, for it is purely mechanical, and after the first week or two you will need nothing but practice. But stenography is not so easily learned, though it is much easier now than it was a few years ago, because the methods have been simplified. You should begin your stenography first, by all means. If you buy a good work on stenography you can begin your technical study at home. There are a number of different systems that you can choose among, and one is very nearly as good as another. For my own part, I prefer Munson's, but it is entirely a matter of choice. Munson's and Pitman's are both standards. No employer will ask or care what system you use, if you take him correctly.

You must be prepared to feel discouraged at first when you begin your stenography. I do not believe there is a stenographer in the world who did not feel discouraged at first. The dots and dashes are bewildering, but only at the start. A plain dash means one thing, and you put a little curl at one end and it means t-i-o-n, tion, and if you twist the curve the other way it means "successively." Below the line it means one thing, above the line it means another.

But the bewilderment soon wears off and it becomes interesting. In a few months you will be able to write as fast as a person speaking slowly, but probably will not be able to read the half of it. A little more time and study and you can both write and read it readily. Some speakers, you will soon find, are much easier to "take" than others. Go to church and take the sermon, selecting a preacher, if possible, who speaks slowly and distinctly. Give yourself plenty of practice. Some of the members of your family will read for you. The notebook and pencil should be always ready.

If you can attend a school of stenography, so much the better. It is not positively necessary, but it makes the work easier and you learn faster. You can find such a school in almost any town, and there are hundreds of them in the cities, with classes in the morning, the afternoon, and the evening. You can, however, make yourself an expert stenographer with no teacher but the book, and at the same time be learning many other things, for after a few hours of stenography you must change to something else, to rest the brain. It is not play, it is work, but work that you are capable of. It is necessary work if you intend to be a stenographer and typewriter, but in that case only. It is not necessary in any other calling that you are likely to engage in.

Stenography is necessary only for professional stenographers. If you desire to be a newspaper woman, for instance, do not think of wasting your time over it. I do not know of a city editor in the country who would not reply "That makes no difference" if you applied to him for a position with the assertion, "I am an expert stenographer." He seldom wants a shorthand report of anything, and when such an occasion arises he sends to a stenographic agency. Do not imagine that it would be of great use to you in reporting an interview; that is a mistaken notion. Unless you are engaged in the business you will not use your shorthand twice a year. But if you have made up your mind to be a stenographer and typewriter, be a good one. Do not be satisfied to be a girl whose place can be filled in half an hour by a tap of the telephone bell. Such places are not worth much. You will find it a good profession when you make yourself so valuable that your absence is a misfortune. It is not luck, but ability, that puts girls into good positions.

THE FIVE AND TEN CENT STORE ¹

By FRANKLIN A. STOTE



ONE day, some thirty-three years ago, a salesman for a New York house was calling on a customer in a Michigan town. He had an idea for increasing his sales, a little scheme that had come to him during one of the idle hours while "making a jump" from one town to the next. As the Michigan merchant was a good friend of his he thought this would be about the right place to try out the new plan. So when the local dealer had given his order from the regular line the salesman unfolded his proposition.

If the merchant would place an order for some job lots of stuff that happened to be left over in the New York house — stuff that could be retailed for five cents — the salesman would personally conduct the sale.

He was sure that much of the dead stock on the merchant's shelves, which could hardly be given away under ordinary circumstances, would be really sold if offered in attractive combinations with the job lots from the East.

The order was placed, and the salesman started out to make some nearby towns, while waiting for the shipment. When the goods arrived, the New Yorker was there to meet them. While they were being unpacked and a counter cleared for the sale, the traveling man went through the merchant's stock and selected a lot of small shelf-worn stuff. This he arranged according to his own ideas, along with the new goods.

Of course the sale was advertised for a certain date, and

¹ By permission of "System." Copyright, 1907.

the success of it may be best indicated by the fact that at the close of that first day a wire was sent to the New York house to duplicate the order.

As the salesman had accomplished his purpose — increased his sale — he resumed his trip, and wherever the merchant customer would take up with the plan he organized one of the sales.

It happened that one of these Michigan storekeepers had a friend in Watertown, New York, and that he used to stop off there when making his infrequent trips East. Not many months after these sales were started he concluded that it was time to go to market, and as this year was to be no exception, a few days later he was talking to his old friend Moore, of the firm of Moore & Smith at Watertown.

In the course of their conversation he spoke of the great success of his five-cent counter. During the telling of the story the merchants were standing beside one of the counters of the Watertown store. A clerk who was on the other side could not avoid hearing the talk. The account of the sale surprised him, but he gave no particular thought to it at the time.

Not long after this visit, Mr. Moore went to New York, and while there called at the wholesale house where his Michigan friend had purchased his five-cent goods. The great difficulty was to get articles that could be sold at the price; but finally an order amounting to seventy dollars was placed.

When the goods arrived in Watertown a counter was cleared, and some of the shelves were cleared, also, for the opportunity to get rid of the dead stock was not to be overlooked. When everything was in readiness, the sale was announced. It succeeded — order after order was sent in to have new goods rushed through.

Mr. Moore made a second trip to New York and looked up firms with whom he had never before dealt, in the hope of securing a greater variety of stock. He was soon spending much of his time there, for the business was new, and wholesale houses had not pushed or encouraged the sale of what seemed like a trifling line of goods. They knew it could not last; in fact, Mr. Moore had told them it could not last, but that he was determined to make all possible out of it while the rush was on. He did not tell them that his firm had already started to wholesale their goods; but that was just the situation. They had been forced into the wholesale business. And this is how it happened.

At the end of the first week of the five-cent counter, two of the clerks informed their employers that they had made arrangements to start a five-cent store in a nearby city and wanted to buy their stock of Moore & Smith. Before the close of another week a third clerk had decided to open a store in a place not far away; here was another store to be stocked.

Other storekeepers saw the business that this innovation was creating, and they came to Moore & Smith to buy their stock. An enterprising farmer who received his mail at a little hamlet of five hundred population, close at home, came to Watertown to do his trading. He felt the excitement, and one day bought fifty dollars' worth of goods of Moore & Smith with the intention of starting a store in the place near his home. There was no store to be had, so he rented the upper story of a barn and soon sold the entire stock.

While all this excitement was going on around him, the clerk who had heard the story told by the Michigan merchant was, apparently, feeling no great interest in the changes that were taking place as a result. He had little

to say about it, and whatever he noticed regarding the sale of the goods, those with the greatest amount of profit and those which sold best, he kept to himself.

But the time had come to act; his former associates in the store, the two clerks who had first left to start up for themselves, had picked their stock and moved into the town where they were to start up; in fact they had been running for nearly two weeks, and the reports came in that they were doing an enormous business.

He approached his employers and told them that he, too, wanted to start in the new business, but that he had no money. He was told to find some one who would indorse his note; that they would then let him have the stock. After several attempts to get outside help, the young clerk reluctantly went to his father, who agreed to go on the note with him.

Three hundred dollars' worth of goods were picked out and packed, subject to his orders. With fifty dollars in his pocket he left Watertown to find a location. One place after another was rejected for various reasons, until Utica was reached. By this time most of the fifty dollars had disappeared, but there was a friend in Utica with whom he could stay, and a location was finally secured. It was hard to get the landlord to rent the place for one month, rent to be paid at the end of it, when it was the custom to lease it by the year, rent payable in advance of each month. But it was finally accomplished; and F. W. Woolworth had negotiated for his first store without enough cash in his pocket to pay for the lumber to make the rough counters; the few dollars he had must be saved to meet the freight bill. When the goods arrived, according to his order, he hired two clerks, had some handbills printed, and the store put in readiness to meet the demands of the customers.

The bills were purposely distributed in the outlying districts, so that time might be gained in completing the arrangements of the store, but at eleven o'clock in the morning people began to come; the doors were not opened until three, however.

From three o'clock until ten that night the store was well filled; many came out of curiosity, or with the intention of finding out if the goods were worth buying, but there were many sales, and it seemed as if they were doing an enormous business.

When the receipts were counted, they had taken in just nine dollars and thirty-five cents, but the young proprietor was well satisfied; and this was the close of the first day of business of F. W. Woolworth, merchant.

Monday opened up strong, seventy-five dollars' worth of goods were sold, and by the middle of the week the stock had been greatly depleted. New goods were ordered in small quantities; but the stock was not kept up and soon trade began to drop off — there was a lack of variety, no new articles, too much bare space on the counters.

And while Mr. Woolworth thought the town had been worked and that it was not safe to order more goods for such a temporary business, the town was going away unsatisfied and daily lost interest; they, too, felt that the business was only temporary, and unwittingly helped to make it so by withholding their patronage. For the proprietor, the only thing now to do was to start up in a new place and go through the same operation.

Before looking up a new location it was necessary to see his former employers and ask them to extend the note, which would be due in a few weeks. On arriving in Watertown he went at once to see Moore & Smith. They were willing to extend the note so that he could use the money taken in at Utica in starting up the new store.

They hesitated about advising him, but finally said it might be well to try a town farther away. That night he left for New York, seeing that city for the first time the next morning. No time was spent here, and the next train for Lancaster, Pennsylvania, had the young merchant as a passenger.

Then began again the search for the right store at the right price. One was finally found that came the nearest to meeting those qualifications, but before it was rented a trip was made to Reading to see whether a better location could be found there. The investigation proved merely a waste of time and the store in Lancaster was secured. Through lack of capital, as well as from the still confident belief that the business was only temporary, the roughest kind of counters were made by a nearby carpenter.

When the goods came from Moore & Smith the freight charges amounted to one hundred dollars, or one-quarter of the wholesale price. But this could not be helped; as Mr. Woolworth had no credit in New York it was necessary that he should buy in Watertown, thereby paying two wholesale prices as well as the long freight haul.

! Saturday has ever been a favorite opening day with Mr. Woolworth, and this was the day selected the second time, when the store in Lancaster was to be started. The handbills had been distributed Friday and the finishing touches put on the arrangement of the stock. Early Saturday morning the proprietor and his two clerks were behind the counters, ready to receive the crowds which were sure to come. By three o'clock the store was well filled, and when they closed that night they had taken in one hundred and twenty-five dollars.

From that time on, and for several months, the business was good. Mr. Woolworth had learned a lesson from

the Utica store, — that it was necessary to keep up the stock and to be on the lookout for new goods.

For several years no one dared to use the name "Five-Cent Store." Landlords would have been afraid to rent to such a concern, and wholesalers would have shied at doing business where the possibilities for sale were so limited. The name used by both owner and public was the "Notion Store." This was before the day of ten-cent goods; in fact, nothing but five-cent articles were handled by these stores for several years.

In many respects tinware might be considered the basis on which this business was started. It was the custom then, in many of the towns and smaller cities, for the housewife to barter the discarded wearing apparel of the family for the necessary kitchen utensils. These peddlers of frying pans and baking dishes used to make trips through the country and a house to house canvass in the towns; then the rag bags were emptied, and when the weight fell short of that necessary to secure the coveted piece of tinware, it was not unusual to add something that "might have been worn a little longer."

In this way the price paid for cooking dishes often amounted to twenty-five cents' worth of old linen, while the same thing could be secured at the five-cent stores. So the prosperity of the five-cent store worked the downfall of the picturesque vender of tin dishes, who threw in gossip, in plenty, for good measure.

It is curious to note that the "shinplaster" occupied the place of the nickel on those days, and many amusing stories might be told of the vast quantities of the annoying bits of paper that were handled. Nothing short of a packing case would answer for a cash drawer on busy days, and it was often a severe test of patience to make change and at the same time ward off a stray gust of

wind. Not only riches but working capital seemed to have wings.

After varied experiences and varying success, the five-cent stores started around Watertown had passed out of existence. They had traveled around, stopping a month in one town, six weeks in another, and perhaps two or three months in another, gauging their stay by the size and activity of the town. But these stores could not last long, through the great difficulty they experienced in securing a variety of stock. None of them had attempted to buy in New York, and no doubt would have met with failure had they endeavored to do so, for their nomadic habits had not tended to give them the stability that wholesale houses appreciate in their customers.

When he was left alone in the field, Mr. Woolworth permitted this difficulty that had driven the other stores out of business to change his policy. Why not, when it was so nearly impossible to get the goods to sell for five cents, add a line that would mean a greater profit and far greater variety? So a trip was made to market and a line of twenty-five and fifty-cent goods was selected — and the five-cent goods ceased to be.

There was no question that the counters looked better with the increased display and the “estimated” profit was very comforting, but the new prices placed the store in a different class. The five-cent goods did not look so well in contrast with the new line, and then it was possible to find a very fair selection of twenty-five and fifty-cent articles at the general store. The departure scared the people away; they did not feel the same freedom in making a five-cent purchase as before — the store had lost its individuality. While this change did not produce the desired results to the extent anticipated, it was by no means a failure, and the store managed to hold its own.

The task now undertaken was to associate in the minds of the people two chief facts: first, that the five and ten cent store had come to stay; second, that it was not the beginning of a general store, but that only the two prices of goods would be handled. With it all, of course, was the necessity of impressing on the people the great purchasing power of the small change they were in the habit of looking on with more or less contempt.

This store, the first to be operated as a five and ten cent store, was a success from the start. Other stores were started on the same plan, and in each one Mr. Woolworth secured a partner as a manager. A lack of capital made this necessary for a number of years, but as it did not prove entirely satisfactory, the salaried manager was later installed in all the stores. This change was no doubt influenced by the fact that both the brother and brother-in-law of Mr. Woolworth felt that it was to their advantage to conduct their businesses independently. In each instance Mr. Woolworth sold to them the stores they were managing.

After the starting of the tenth store, Mr. Woolworth moved to New York. Though the proprietor of so large a business, his first office consisted of desk room only, in the quarters of another enterprise. Nothing pretentious could be indulged in at that time; the business was growing so rapidly that every dollar was necessary to keep the foundation sufficiently strong to support the greatly increased commercial structure. He was buyer, book-keeper, cashier — he filled all the positions required in an executive office. But he was on the ground, he could see the goods, he had first chance at any bargains. The manufacturers of a new line of goods could be seen at any time, others could be persuaded to bring out something

new when they had a guarantee that a large quantity would be purchased as a first order.

The first employee in the New York office was taken on to keep the books and to relieve Mr. Woolworth of much office detail. Not until the office was moved into a small room on the third floor of the building occupying the northeast corner of Broadway and Chambers street was the luxury of a typewriting machine realized. Gradually the offices grew; the room adjoining was secured; the next year the lease covered several more, until to-day the central offices of this syndicate occupy the whole floor.

And the growth of the central offices may be called the barometer of the business.

As the stores increased in number and size and spread out into many states and scores of cities, the system of long-distance directorate needed a care in handling that commanded many correspondents and much careful supervision. Then there had to be the buyer for each line of staple goods. All this increase in home-office work demanded constant addition to the force of employees and enlarged space.

The success of these stores, at least in many particulars, might be better explained had we the viewpoint of their customers.

Some of the reasons are apparent from the name of the stores. A woman with five cents to spend feels no hesitancy about entering one of them. The coin has a purchasing value that is respected in this place, and after a few experiences of the kind she begins to feel a personal regard for the establishment. She is in no danger of being confronted by a costly array of goods far beyond her purse. No need to keep her eyes on the floor for fear of noticing a bargain sale of imported hats. No need to hurry to the basement stairway, and after much delay

reach a corner far under the sidewalk where she can spend her nickel in peace.

Perhaps she has fifteen cents to spend. After buying the five-cent kitchen knife in the basement, she must walk a block through crowded aisles, go up a flight of stairs, and finally reach the counter where the cheaper hairpins are displayed. The cake of soap she wants may be on this floor, just over by the opposite street entrance. In the five and ten cent store she will probably find all these articles in the same aisle — and a greater assortment of each.

Possibly this is the viewpoint of the frugal wife. And as a frugal wife is usually a busy one, she finds she has saved several things; among them, time, money, and pride.

When the people are pleased, the success of such retail stores, where the goods that are handled are necessities, is assured, provided two points are considered. They might be called first cost and organization. Gross profit, minus operating expenses (taking it in the broadest sense), has always equaled net gain. And this is where the Woolworth stores have won out. They realize that organization must be so perfect that their purchasing ability will have every facility for exercise. Yet just as surely it must not go beyond that. What is gained in gross profit must not be spent in over-organization, or the net receipts will be in no way benefited. There is nothing new about this — except the care with which it is worked out; they believe in the economy of system.

This last point, coupled with their ability to buy in enormous quantities, has made it possible for the Woolworth stores to sell many articles for five and ten cents that the general stores could not handle at that price.

THE DEPARTMENT STORE¹

BY HARTLEY DAVIS



THE popular idea is that a department store is merely the grouping together of a large number of separate businesses under one roof. But the experiment of assembling businesses in one store to minimize the cost of rent and other fixed charges has been tried and discontinued as a failure. The success of the department store rests upon an entirely different principle — upon standardization. The departments are not independent, but highly specialized activities conforming to certain fixed laws that govern the whole establishment.

The old way of doing business was simple and the methods were highly elastic. The proprietor bought as cheaply as he could, usually in quantities that were measured only by his capacity to sell and by his credit. He marked the goods in cipher, sometimes giving the actual cost and the minimum selling price, sometimes only the latter, and left it to his clerk to get as large a profit as could be wheedled from the customer.

The proprietor was therefore absolutely dependent upon the cleverness of his clerks for his profit; the clerk who imposed most upon the customer was the best salesman and commanded a relatively high salary. The percentage of selling cost was thus enormous. Relying considerably on his own personality to win business, the proprietor usually stationed himself at the entrance of the store to greet customers and to settle disputes.

¹ By courtesy of "Everybody's Magazine." Copyright, 1907, by the Ridgway Company.

Now the difference between the old way and the new is the difference between the old-time workshop, where everything was made by hand, and the factory, where machinery does the work. The machine makes articles exactly alike, in standard sizes, and the cost of production is enormously reduced, as every one knows. The modern methods of conducting a department store represent the introduction into mercantile life of this factory idea, in as far as it stands for uniformity, automatism, and cheapened production. Like the factory, the department store is itself a huge, extremely complicated machine, and the store that most nearly approaches automatic perfection in its operation is the most successful.

Probably the most important factor in the development of the department-store machine is the idea of "one-price articles marked in plain figures." This makes it possible for the goods practically to sell themselves. The element of bargaining, the most important feature of the old system, is almost wholly eliminated. The chief function of the clerk is to see that the machine works properly. He has no more to do with fixing the selling price than has the purchaser.

I do not know who originated this idea. There is a story that a glovemaker in Paris first put it into execution and grew rich thereby. The first of the great department stores — the Bon Marché in Paris, which does more than double the business of any other store in the world — adopted the plan when it first opened its doors. A. T. Stewart introduced it into this country before the Civil War, and John Wanamaker was quick to realize its value.

Another important principle of the system of standardization in the department store is that all departments shall make practically the same percentage of profit.

Manufacturers who sell to department stores are often

puzzled by the operation of this principle. I know of one of these who sought the merchandise manager of a big New York store with a novelty that made a direct appeal.

"It looks promising," said the cautious merchandise manager. "How much?"

"We can supply you in quantities at six cents apiece," said the manufacturer. "The selling price is twenty-five cents."

"Very good," said the manager; "I'll give you an order. But we will sell it at fifteen cents."

"No, the selling price must be twenty-five cents," insisted the manufacturer. "We have taken large orders with that stipulation."

"We can't handle it at that price," said the manager.

A little later the same manufacturer sought the same merchandise manager with another article that also pleased, and the manager was ready to buy until the question of the selling price came up. The manufacturer gave the figures, explaining that they meant a profit of forty per cent to the store.

"Can't handle it," said the manager; "there's not enough profit in it."

The manufacturer went away persuaded that each department in that store did business according to its own notions. As a matter of fact, it was standardization that fixed the percentage of profit.

The first article would have been placed in a department that turns over its capital many times in a year; the second, in a department that turns over its capital very slowly. Now it is obvious that a department that does a business of, say, \$100,000 a year on a capital of \$10,000, can sell each article for a much smaller margin of profit than a department that does a business of \$40,000 on the same capital. And the manager's apparent incon-

sistency is perfectly reasonable when one remembers that standardization requires that all departments shall in a year make practically the same percentage of profit.

The volume of business, then, and not the individual profits of departments, makes the great prosperity of a department store. Many owners of big stores maintain that the fundamental principle is to reduce the whole selling machinery to the smallest possible cost and to fix prices so that there will be no actual profit on the goods. That is to say, these stores try to sell goods at exactly the price at which they are billed to them, plus the cost of selling. For their profit they depend upon their discounts, the five, six, or seven per cent allowed for cash payment. If they followed the custom that prevails in practically every other commercial activity of letting accounts run from ten to thirty days, they would not make a profit at the prices at which they sell goods.

Because it is volume of business that counts, every department store of course tries to keep its stock as low as possible. Everything must be kept moving. Under the old system a store would buy a whole year's supply of staples and a season's supply of other goods. But it is not so now; and the modern method throws upon the shoulders of manufacturer and wholesaler the risks that formerly were assumed by the retail store, to the grave disorganization of the businesses of those who supply the big stores.

Most women know that as a rule the things offered in bargain sales are sold below the actual cost of manufacture. Now the bargain sale is popularly supposed to serve a double purpose — to attract people to the store and to get rid of old goods. The first proposition is always true, while the latter applies to only about one-tenth of the bargain sales. The manufacturer stands the loss, for

there is a very considerable loss, of the other nine-tenths.

It is axiomatic among department-store owners that there is always a manufacturer who is willing to sell some of his output at a great sacrifice. It may be because he finds himself stocked with goods for which there is no demand at the prices for which they were made to sell; oftener, he is hard pressed for ready money. But whatever the cause, the result is a bargain sale in a department store. And in all cases, except the one bargain sale in ten by which the store is getting rid of its own goods that have not sold, the establishment makes its regular standard profit.

The buying for a department store has been as carefully standardized as the selling, although the process has been slower. In the old days the owners of the store did all the buying. Then, as departments increased, this part of the work was turned over to the heads of departments, who were called buyers and who were responsible to the general manager or to one of the proprietors — a method that still prevails in many of the biggest stores. Something like half a dozen years ago the astute John Wanamaker saw that there was a weakness in this system and he further standardized the buying by introducing the merchandise manager. Other establishments have followed his example.

To the merchandise manager is deputed the supervision of both the buying and the selling, and he can make or break a great establishment. He takes over a part of the duties that formerly fell on the general manager, the advertising manager, and, frequently, one of the members of the firm. Primarily, his business is to see that goods are bought to the best advantage and sold as quickly as possible.

The work of the merchandise manager is extremely varied, his knowledge extraordinarily wide. The price of raw silk in Italy, the weather at home, an advance in furs in London, the efficiency of a \$1-a-week clerk in his store are matters of daily concern to him. In the course of a morning that I spent with a merchandise manager in New York, he authorized, after five minutes' talk, the purchase of \$35,000 worth of goods beyond the buying limit allowed a department. A few minutes later he refused to sanction the purchase of \$100 worth of goods for another department. And then he devoted nearly an hour to investigating a complaint made by a customer that a silver purse for which she had paid \$10.50 could be bought in another store for \$7.50. He knew offhand what this particular article had cost in Vienna and the duty on it.

It is the ambition of the merchandise manager to keep stocks down and to increase sales; that is, the volume of business. He is therefore continually between the Scylla of running out of stock altogether and the Charybdis of being overstocked. He has his eye on every department, and each morning at nine o'clock there is handed him a statement of exactly what was sold on the previous day and what stock is on hand.

Every article in the store is marked with a tag showing when it was received and when it was put on sale. If certain goods are not moving, he sends for the buyer in charge of the department to explain. When the explanation is unsatisfactory, the merchandise manager directs two or three of his own particular staff of experienced salesmen, employed exclusively in this sort of work, to go into that department and find out what is the trouble. If the prices are too high, they are lowered. If the sales-people are inefficient, they are replaced. If the styles or colors are not popular, there is pretty sure to be a bargain

sale of those goods. For it is better business to sell articles for next to nothing than to carry them indefinitely.

The merchandise manager also governs the advertising, deciding which department shall be exploited and what space the others shall have; he also determines the window displays. In both cases the weather is a very important factor. The amount of money that shall be expended in advertising is decided by the heads of the concern — in these days the proprietors are almost wholly occupied with the finances and with determining questions of policy that give each store its particular character. The advertising is the largest single item of expense of a department store, apart from the money spent for goods. In 1906 the daily newspapers in New York were paid \$500,000 by the Siegel Cooper Company; \$480,000 by John Wanamaker; \$400,000 by R. H. Macy & Company; \$300,000 by the Simpson Crawford Company.

In establishments without a merchandise manager, the advertising manager has much authority. His chief business is to make sure that every five cents spent on advertising shall bring in a dollar's worth of business. One of his hardest duties is the distribution of charities. Some of the big stores appropriate \$10,000 every year for charities, in addition to giving away many articles. The advertising manager is paid anywhere from \$4,000 to \$10,000 a year and he earns more than he gets. The salary of the merchandise manager is a variable quantity, ranging from \$15,000 a year up to \$50,000. Next to him are the buyers, the actual heads of departments, whose relative standing depends upon the importance of the department in a particular store, for each has its features. Most buyers receive from \$5,000 to \$10,000 a year, but the range is from \$2,500 to \$35,000.

Like the merchandise manager, the buyer makes every

effort to keep stocks low, in order that the capital invested in the department may be kept working. For illustration, take the business in books. If the buyer is reasonably sure that he can sell two hundred copies of a certain novel, he doesn't buy that number at once. The publisher usually gets seventy-five cents for a book that is listed at \$1.50, retail. The department store buyer orders ten books, for which he pays \$7.50. He sells these books at \$1.08 each — the selling price is as carefully standardized as everything else in a department store, as I shall presently explain. When the first ten books are sold, the buyer orders ten more, paying for them out of the sales of the first ten, and so on until the demand for the novel is exhausted. If he sells the whole two hundred, he has done a business of \$216 on a capital of \$7.50, and he has the profit made on each ten to apply to buying other books if he wishes.

Of course most of the articles sold in department stores are not to be had in the open market. Certain things have to be ordered a long time in advance; before they are made, in fact. The buyer arranges to have deliveries made every month or at shorter intervals, paying "spot cash" on each delivery, and thus avoids tying up capital in the whole order.

The manner in which the selling price is fixed varies in different stores, but the principle is the same. The merchandise manager, where there is one, always fixes the selling price. Oftener, this is the duty of the buyer of the department. Everything is determined on a percentage basis. To the price at which the goods are billed to the shore are added the fixed charges, which include rent, delivery, bookkeeping, selling expense, etc., the range being from eighteen to thirty per cent, and the average about twenty-five per cent. The most variable of these

items is the rent charged. Manifestly, departments like furniture, pianos, and household utensils, which require a vast amount of space, must pay a high rent in consequence. To these fixed charges is added the net profit, which in most stores varies greatly in different departments. It is not based upon the highest price that the public can be persuaded to pay, as in the old way, but on the number of times that the stock — that is to say, the working capital — can be turned over in the course of a year. In some departments the profit placed on particular articles may be only two or three per cent. In others it may run as high as forty per cent. Yet at the end of the year the two departments will show about the same percentage of net profit. An article that sells for seventy cents in one department may be shifted to another and sold for fifty cents, without making the slightest difference in the net profit of the store at the end of a year.

Most people think that the custom of fixing prices in odd cents is to make goods appear cheaper, but that is not the reason for it. When one deals in percentages there are bound to be odd figures. Take the books as an illustration again. The store pays seventy-five cents for each volume. It adds twenty-five cents for the fixed general expenses and eight cents for the profit. If the department were not compelled to carry thousands of dollars' worth of standard works, which sell slowly, the percentage of profit charged would be lower; if it were not for the enormous holiday trade, the percentage of profit charged would be higher. Standardization again.

This charge that I have called net profit is not all net by a good deal. It must cover the loss of breakage and general destruction, the failure of goods to sell, and theft. The cheaper stores suffer more seriously from thieving than the higher-priced ones because their employees are

less trustworthy. For years the proprietors estimated that their theft losses were due half to their dishonest employees and half to outsiders, but not one of them would venture to estimate the total.

There is a curious standard of ethics among some of the employees. They do not regard taking articles for their own use as theft, whereas to take them for some one else, even a member of the family, is plain robbery. Almost never are these guilty ones prosecuted even if they are detected and the proof is conclusive. They are discharged, of course, and notices are posted in the dressing-rooms explaining the reason. But when an employee steals goods to sell and is caught, arrest follows.

Under the buyer is the assistant buyer, whose salary is sometimes very large, depending on that paid his chief, and next to him is the stock clerk, who gets anywhere from \$25 to \$60 a week. Then come the salespeople. Among the men the best paid are in the furniture and piano departments, where they usually receive a drawing account, that is, a minimum fixed weekly salary, and a commission, computed at regular intervals; and in the clothing department, where the best salesmen get \$25 a week. For women the millinery department is the best, the salaries ranging from \$15 to \$35 a week, but there are two long seasons of idleness. Saleswomen in the cloak and suit department get from \$15 to \$30 a week.

The wages paid the senior salespeople in the general departments of the best stores are from \$9 to \$18 a week. The juniors range from \$6 to \$8. Below these are the cashiers, wrappers, checkers, cash girls, and errand boys.

The demand for really good salespeople is greater than the supply and the chances of promotion are excellent.


The Wanamaker stores have clubs in which the benefit idea is worked out in the form of education and social

activities. These clubs go in for languages, literature, and other things that make for culture, and the firm contributes liberally to them. Most of the fines that are imposed in department stores are turned over to these organizations of employees.

It is the claim of department stores that they have more eleemosynary features than any other big business. This is not exactly true, but it is true that they give the public greater service for less cost than any other institution. Witness the rest- and writing-rooms, the restaurants that are usually conducted at a loss, the arrangements that are made in most stores to care for babies. The Wanamaker store is strong on these features. In the new building in New York there is one of the finest auditoriums in the country. It seats fifteen hundred people and two concerts are given each week-day during most of the year. It has its own singers and instrumentalists and in addition employs some of the great masters. Richard Strauss was paid \$3,000 for three concerts. It costs about \$50,000 a year to give these concerts and admission is free. Of course it pays — remember, the Wanamaker stores lead in the volume of business in New York — but the public profits, nevertheless.

CONQUEROR OF THE ROCKIES¹

By CHALMERS LOWELL PANCOAST

UT in Colorado there is a man known as "The Conqueror of the Rockies." He is the man who, by his iron will, made the iron horse climb over the backbone of the continent, a feat which has astonished the greatest engineers in all parts of the world.

Master engineering minds declared the building of a railroad across the perpetual snow-covered Continental Divide most impractical, even if it were possible, but the old Empire Builder's dream was this "impossible" railroad, and he has accomplished the impossible.

The new railroad, which is proving to be the greatest factor in the development of Colorado, has required seven years to build one hundred and twenty-four miles of track, and it has cost \$12,600,000, which makes it the most expensively constructed railway in the country. This marvelous engineering feat is called the "Moffat Road" because it was built by David H. Moffat, who came to Colorado a poor book peddler, but who now counts his money by the millions.

The life dream of Mr. Moffat has been to connect Denver with Salt Lake City by a direct railroad. The map of the State of Colorado shows a vast empire 200 miles north and south by 300 miles east and west. The Union Pacific Railroad runs 627 miles in its passage over the sage brush plains between Denver and Salt Lake City.

¹ By courtesy of the Business Men's Publishing Company. Detroit. Copyright, 1910.

The Denver & Rio Grande Railway runs 741 miles, swinging with many a loop and curve down toward the southern part of Colorado in search for an easy crossing of the Great Divide.

It does not seem possible for a railroad to go in a direct line westward from Colorado's capital. The great range of mountains to the westward rises rampart-like, the summit of its lofty peaks being clothed, the year around, in masses of perpetual snow.

But "Napoleon" Moffat believed the "Continent's Backbone" could be crossed, and he found a way to storm nature's citadels, declared to be impregnable. His was not the first brain to conceive the idea of tapping the almost limitless resources of the mighty empire that lay beyond the towering walls, but it remained for this man of iron will to carry out the gigantic enterprise.

The company that is now the Burlington Railroad once tried to run a line across the Great Divide, but after several millions of dollars were sunk in tunnels, bridges and grades, the project was abandoned. The men who were furnishing the money saw how desperate was the undertaking to subdue the stupendous forces of nature and cross the barren, rocky peaks.

The "Moffat" Road, which is now complete from Denver to Steamboat Springs, will make the journey to Salt Lake City 200 miles shorter than by any other route.

The story of "The Conqueror of the Rockies" has its beginning with a poor messenger boy in a New York City bank. Davie Moffat, the boy, had very few advantages of an early education, and practically all his training came from hard experience. At the age of sixteen he was appointed assistant teller. He then emigrated to Des Moines, Iowa, where he found employment in a bank as teller. Later he went to Omaha, Neb., where at the age of eighteen, he was



A MOUNTAIN TUNNEL

manager and cashier of Allen's Bank. When Moffat reached the age of twenty-one he formed a partnership with C. C. Woolworth in the book business. With a prairie schooner loaded with books and stationery he joined a Pike's Peak expedition, and landed in Denver with a depleted stock and a sore-footed mule team. He opened up a book store, and continued in the business for many years.

The narration of Moffat's life reads like a soldier-of-fortune romance. One incident of interest is that he was the first telegraph operator for the Western Union Telegraph Company when the line was extended to Denver. In the year 1865 he was appointed adjutant general of the militia of Kansas and Colorado, and also assumed the duties of quartermaster. In 1867, Moffat was elected cashier of the First National Bank of Denver, and several years later was elected president of the same institution.

Then immediately followed his interest in railroad affairs, and his election to a directorship in the Denver & Rio Grande Railway. The next step in his career was his election to the presidency of the same road. By the force of his genius for railroad construction, Mr. Moffatt soon acquired great power and influence. In time he became renowned for his great success as a banker and railroad financier. He has been actively associated with the construction of nearly every railroad in Northern Colorado, and has taken part in all Western projects, but more conspicuously in the adjustment of monetary difficulties.

At the age of sixty-three when most men are ready to retire from active work, the possessor of a fortune reckoned far into the millions, rejoicing in the respect and gratitude of a great commonwealth for work already accomplished, Mr. Moffat might well have rested from active work and contemplated a career useful beyond

most men of his time. But, instead of that, he launched and is carrying through the most tremendous task in the West, the crowning glory of his career of activity, the completion of a monument that will for all time attest his genius of planning and daring.

In response to the demand for a short line, Mr. Moffat began to crystallize plans for some definite action to raise money for the purpose of making surveys and investigations. But he soon learned that he could make no headway in his attempt to interest the financial powers in the great money centers of the East or even in Europe. The money powers were more anxious to protect investments already made than they were to finance new projects, especially when the new railroad would be a competitor of the roads already in their control. The building of the two trunk lines already established, one to the North and the other to the South, had cost several millions of dollars to build and vast amounts to maintain.

The yearly passenger traffic and the freight tonnage handled by these two lines were enormous; allied coal companies were mining and selling great quantities of coal in the vast territory between the mountains and the Missouri River and had a monopoly in the business. It was decidedly against their interests to encourage or assist in building a new and shorter line between Denver and Salt Lake, thereby bringing about competition in the railroad business, and at the same time aid in developing coal fields and opening a country more desirable than any of the western country.

That was the condition David H. Moffat, "The Conqueror of the Rockies," found and he immediately announced that he would finance and build the "impossible" road himself. His attempts to interest capital in his enterprise met with an indifferent reception. This

aroused to the last drop his fighting blood and filled him with a grim determination to build the Short Line through the mountains even though compelled to supply every one of the millions of dollars it would cost. Knowing whereof he wrought, this man more than sixty-three years of age, with a large private fortune in hand, a great bank to manage, having had a career of hard and constant striving unmarred by failure, with everything of material nature for which men strive already to his credit, proceeded to put his plan into execution.

Mr. Moffat's dream was revealed seven years later, when the graders, drillers and timber men on the line had at last broken through the mountain barriers, and the road was reaching along the green valleys toward the wealth-laden hills already in sight, when he remarked,

"If I were twenty-five years younger I would make millions out of this country, but I am too old for that now. I was too old when I began building the road, but it will bring wealth to a great many people."

This man, when his advances and representations made to the money kings of the East were rebuffed, unlocked his strong boxes and disposed of millions of dollars' worth of gilt-edge securities of his most cherished holdings in order that the great work might be carried out.

A hard fight was made by opposing interests to prevent the line being built.

In spite of it all, Moffat continued to raise money — and millions of it — although not a bond was sold or a share of stock issued. It was all the work of one man, this financing and building of a tremendously expensive mountain railroad. Every dollar that went into it did a dollar's work, — a straight-out one-man enterprise without stock watering or bond manipulation.

In September, 1907, the Moffat line hauled its first pas-

senger through the Gore Cañon. The following October, like a bolt from the blue sky, came the financial panic which, starting in Wall Street, reverberated across the continent and shook the business world to its foundation.

Then, and then only, did Moffat suspend building operations on his line. Having in his care the management of a great bank which carried the deposits of the people to the amount of almost twenty million dollars, it was too great a risk to keep on in the face of the financial whirlwind. The news of the work being stopped had hardly reached the public before there was given a demonstration of what loyalty to one's city and state may accomplish when mixed with the alloy of self-interest. A number of wealthy friends came together and money to the amount of several millions was pledged immediately to complete the Moffat Line to Steamboat Springs.

In January, 1903, he had started the laying of parallel rails out of Denver, headed straight for the towering summit of the Rocky Mountains, bleak, snow-capped, scarred by avalanche and torrent and up to that time unconquered. Tunnels were hewn through solid granite, great chasms were spanned, seemingly impossible rock walls were hewn out, the Great Divide was surmounted at the highest point in the world for a standard gauge railroad, Middle Park was crossed, Gore Cañon, a titanic gash through a mountain range, was fashioned into a roadbed, and on Dec. 13, 1908, the rails were laid into Steamboat Springs, the first span of the journey toward Salt Lake.

The trip over the Moffat Road is the grandest scenic trip in the world. Here is the very acme of scenic grandeur, the very limit of the sublime in nature. Every phase of natural conditions, from the summer heat of the plains to the region of everlasting snows, from the verdure-clad valleys to the barren mountain tops far above the timber

line, from the undulating foothills to the most abrupt and awe-inspiring cliffs and cañons — all may be encountered within a few hours by a trip over this wonderful railroad.

At present the line passes over a great shoulder which projects from the main body of the mountain. From Tolland up over this shoulder is a climb of nearly three thousand feet, up a grade of four per cent, or nearly two hundred feet up for every mile traveled. Railroad men call this climb the "Giant's Ladder." On the face of the mountain the track rises in three terraces, one above the other, and the last is so high that it seems to one in the valley below an impossible task for the locomotive to drag the train up to it. When the last climb is completed the train winds over the shoulder, and there rising up to a sheer height of a thousand feet is a great cliff, and out on the jutting edge is a ragged hole through the face of the wall. This tunnel, because daylight shows through it, is called the "Needle's Eye." Like a great scar the way of the roadbed can be traced up the side of the cliff where it goes through the tunnel.

The track that disappears in the "Needle's Eye" comes out on a great shelf that hangs a thousand feet above Yankee Doodle Lake, a beautiful circular piece of water imprisoned almost on the crest of the Great Divide. At this point the road is 11,660 feet above sea level, and almost seven thousand feet above Denver. This is the highest point ever reached by a standard gauge railway, in a region of perpetual snow, mountain peaks, and seemingly on the roof of the world.

From Corona, the name of the station on the crest of Great Divide, a thousand feet above timber line, the road begins winding its way down the western slope through rugged cañons. At one point the track makes a great

loop and passes under itself by means of a tunnel. From the top of the world the road soon drops into the cavernous depths of Gore Cañon. In this cañon the waters of the river are plunging, seething and boiling, churned to frothy whiteness in their wild rush down the narrow, boulder-choked channel and over rocky falls. Above the river on either side of the cañon the walls rise to terrific heights. Five hundred, a thousand, two thousand feet, up go the mighty walls, their lower face rent and gashed by the awful force of the dynamite which was used by the ton to carve a way for the Iron Horse.

It is fairly terrifying to see, hundreds and thousands of feet above, great masses of rock weighing hundreds of tons so delicately balanced on the jutting shoulders of the cañon that the jarring of the train, it would seem, might bring any one of a thousand great boulders crashing down upon the track. For six miles the steel rails wind and twist through these cavernous depths, at times alarmingly near the brink. But at these seemingly dangerous points the track leads into a tunnel only to come out on a more roomy shelf. It is claimed that before this road was built through Gore Cañon no man ever went through it except in extreme cold weather, when it was possible to clamber through over the masses of ice which gorged the cañon. Places along the route were so inaccessible that members of the engineering corps were lowered hundreds of feet by ropes to plant their instruments on points of vantage where it was possible to locate the line.

The road then winds its way over the great reverse curves of Conger Mesa into Rock Creek Cañon, along cliffs, through tunnels, across a great bridge, one hundred and twenty-five feet high and four hundred feet long, where the line leaps from the hanging walls of Rock Creek Cañon across to a shelf that runs under

a great hill, the top of which is the mouth of a volcano called the Crater. When the line was being built the giant steam shovels loaded long trains of flat cars with the black cinders which for thousands of years, since they were shot out of the crater, have lain a black mass on the mountain sides. Winding around the base of the crater the line plunges on into the depths and shadows of the Algeria Cañon, until at last the line springs into the open with a whole world of country before it.

Three of Mr. Moffat's other railway projects were instituted to give an outlet to the product of three of Colorado's mining camps — Leadville, Creede and Cripple Creek — and two of them, like the "Moffat Road," were built with his own capital. From his first railroad enterprise, the pioneer line of Colorado, to his last, Mr. Moffat's aim has been to develop the state which has been his home since he reached his majority. He has observed riches lying dormant because their isolation prevented their being brought to life, and then he has removed the spell that kept them in a state of quiescence.

The Moffat Road will benefit not a few, but the toiling millions of men who will build their homes in the country which he has opened. They will be showered with the blessings for which he has willingly sacrificed an old age of peace and comfort to years of hard work and carking care.

What will be the wonders of growth and development of that country of ten thousand square miles west of the Great Divide are something only the coming years can tell. Certain it is that since the rails of the Northern Pacific Road were pushed westward nineteen hundred miles from Lake Superior to that country lying along the shores of Puget Sound, no country possessing such a store of natural wealth as this has been opened up and made accessible to all who would enter.

BANKING¹

By BRADFORD RHODES

BANKS register and regulate the productive wealth of the country and aid immeasurably in its rapid and proper distribution. There is hardly a phase of trade or production that is not represented by the banks. By the perfection of their machinery they make capital and credit available for instant and universal service to mankind. The chief function of a bank — almost its sole legitimate function — is to aid in the production and distribution of the staple commodities of life. Those who may be disposed to think that this is not an exalted work to do should reflect that the sustenance of mankind must precede endeavors to elevate and ennoble the race.

Speaking more definitely of the attractions of a banking career, it may be stated generally that the young man who secures employment in a bank has an exceptional opportunity of at least making a good start in business. Whatever may be said in regard to laying up treasure on earth, it ought to be one of the first aims of every young man to get on an independent, self-supporting basis. Only by doing so can he be assured of being able to be of the highest service to his fellows. He who has not learned how to help himself can hardly hope to be of much assistance to others.

The acquisition of wealth is not the chief end of banking, but those engaged in this calling, both by their associations and training, have unusual opportunities of acquir-

¹ From "Careers for the Coming Men." Copyright, 1904, by the Saalfield Company.

ing that texture of mind that enables one to provide for the rainy day. The care of wealth begets habits of thrift and financial shrewdness.

Young men who are fortunate enough to secure employment in banks are at once initiated into the intricacies of a dignified and serious profession. They learn to be punctual, diligent, neat, painstaking, industrious, and courteous, and get a knowledge of business law, form, and methods that is of the greatest value. Above all, they have opened for their study the book of human nature, whose stores of information are inexhaustible. They not only learn how to discount paper, but also to discount the rosy schemes of the speculator and the promoter. Sound business judgment becomes almost a sixth sense, not subject to the illusions which sometimes cheat the other senses. The banker, from the nature of his calling, fulfills the injunction to get wisdom and understanding.

There are many who think that the banking center of the world is destined to pass from London to New York at no distant day, and already the growth in our banking power is shown to be without a parallel. The natural development of the country, the extension of banking operations to foreign shores, and the restless energy of our people in capturing the great prizes of this age of industry will combine to make banking more attractive to young men than it has been heretofore.

The first requisite for a successful banking career is character. Honesty is indispensable — not merely what may be defined as “statutory honesty,” but the honesty that has its origin in principle. Banking is concerned chiefly with credit, and the prime constituent of credit is confidence, and without character confidence cannot endure.

But, of course, character is only one thing required. There must be a natural liking for the business — an aptitude for it. Loyalty to the bank's every legitimate interest and obedience to superiors — doing wrong at no man's dictation; attention to minute details; a habit of observation; diligent, careful, and intelligent effort, patience, and self-restraint; unflinching courtesy and an ambition to gain success by deserving it — these are a few of many qualifications that might be enumerated. When all these are gained they must be joined to common sense and the knowledge that comes through study and experience.

The young man to-day who desires to fit himself for a banking career will be greatly aided in acquiring the necessary preliminary qualifications by the courses of study now offered by many of the colleges and universities and by the educational work being carried on by the American Institute of Bank Clerks, under the auspices of the American Bankers' Association. Too much attention can hardly be paid, however, to the fundamental branches of education. There are few better recommendations for a young man who desires to enter a bank than to be able to write rapidly and legibly; a thorough knowledge of commercial arithmetic and of the geography of our own country is also a valuable part of a bank clerk's equipment.

It should be borne in mind that the work of a bank is plain and practical rather than showy. Of course, this implies no lack of appreciation of the broadening influence of a wide and thorough culture, which helps to make the complete banker.

The young man ambitious of achieving an honorable position in banking should be well posted on the current thought and history of the day as recorded in the daily

newspapers and magazines. Much of this information is worthy of being classified and preserved for reference.

A knowledge of accounting and of commercial law is also desirable, and to be ready for promotion it is necessary that the young banker should familiarize himself with the productive capacities of different parts of the country, the various crops, their seasons for growing, marketing, etc.

It is presumed that every young man is aware that in a bank sobriety, clean speech, truthfulness, and a gentlemanly demeanor are expected as a matter of course.

Although the demands of a banking career are exacting, the rewards are, generally speaking, in fair proportion to the service rendered.

As a means of earning a livelihood banking is superior to many other callings both as regards the shorter hours, thus affording more leisure for recreation and for acquiring a broader culture, and in the rate of compensation. Although banking hours are far from being as short as the public imagine, they are, generally speaking, shorter than in many other lines of work. The bank employee, however, who attaches too much weight to this fact will hardly win a high place in banking.

Salaries paid young men in banks, considering the moral and mental qualifications required, are not high, but they are such as afford a fair living and a reasonable surplus, with proper economy. Besides, promotion is almost sure to follow a proper devotion to the bank's interests, and not infrequently the messenger or clerk becomes in a few years the cashier or president. There are many examples of such promotions, won strictly on merit, to be found in the large city banks, as well as in those situated in the country. The young and energetic banker whose capacity has been demonstrated by results is almost cer-

tain to find his services in demand at a fair salary. The large number of banks, each with its own officers, affords ample opportunity for promotion, and this is won, in the great majority of cases, by efficiency rather than by influence. If the young man who enters upon a banking career bends every effort toward fitting himself for the duties of the place above him as well as the place he occupies, he will find that opportunities for advancement will not be lacking. Generally those who get into one place and remain there without making any progress are those who lack either ability or ambition. The obstacles to advancement can be removed, almost universally by diligent application to the work in hand, and by continuous study and preparation for what lies before.

There are not a few large prizes to be obtained in a banking career. Some of the places carry with them great power and influence and a salary as large as, or perhaps larger than that received by the President of the United States. These places are held now, and have been in the past, by men, some of whom have worked their way up from obscurity and poverty. Similar opportunities are open to young men to-day who possess the courage and self-reliance to move forward and take possession of them.

No greater mistake could be made by any young man than to be deceived by the cry that the great corporations have destroyed the chances for getting on in the world. There never was a greater field open for young men than is now offered in banking and other business enterprises of this busy new country. The forces of industrial and commercial progress are moving forward on their beneficent missions as never before, and the banker is found as ever at the forefront.

In the best sense of the term the banker may be characterized as a successful man. He is the trusted custo-

dian of the money and credit of his community, and rarely betrays the trust reposed in him.

The rewards of banking are not to be won by the timid or the slothful, but for those who are willing to work for them and who possess the necessary qualifications there is perhaps no other calling that offers more in the way of honor and profit.

Neither in banking nor in any other calling in which men engage can any sure prescription for success be written. Worthy achievement is the result of innate qualities, although there are fixed principles from which no departure can be countenanced. The dazzling success of men in piling up great fortunes by doubtful methods sometimes blinds our perception of truths of general application. The exploits of financiers, which receive so much attention, constitute but a small part of the real and enduring services which banks render to the every-day business of the country. The mountain peaks loom large upon the horizon, but the unassuming plains and valleys fill the granaries of the world. It may be that the young man who chooses banking as a career may never reach the topmost rung of the ladder, but if he takes pleasure in his work he will enjoy whatever progress may be made, and feel satisfied that in the course of it he has contributed to the happiness and prosperity of mankind. In laying the foundation for his banking career he will build upon character and efficiency. Then shall he be likened unto "a wise man who built his house upon a rock; and the rain descended and the floods came, and the winds blew and beat upon that house, and it fell not, for it was founded upon a rock."

THE WAY TO WEALTH¹

By BENJAMIN FRANKLIN



COURTEOUS reader, I have heard that nothing gives an author so great pleasure as to find his works respectfully quoted by others. Judge, then, how much I must have been gratified by an incident I am going to relate to you. I stopped my horse lately where a great number of people were collected at an auction of a merchant's goods. The hour of the sale not being come, they were conversing on the badness of the times; and one of the company called to a plain, clean, old man, with white locks:

"Pray, Father Abraham, what think you of the times? Will not these heavy taxes quite ruin the country? How shall we ever be able to pay them? What would you advise us to do?"

Father Abraham stood up and replied: "If you have my advice, I will give it to you in short; for *A word to the wise is enough*, as Poor Richard says."

I.

They joined in desiring him to speak his mind, and, gathering round him, he proceeded as follows:

"Friends," said he, "the taxes are indeed very heavy and if those laid on by the government were the only ones we had to pay, we might more easily discharge them, but we have many others, and much more grievous to some of us. We are taxed twice as much by our idleness, three times as much by our pride, and four

¹ From "Poor Richard's Almanac" for 1758.

times as much by our folly, and from these taxes the commissioners can not ease or deliver us by allowing an abatement. However, let us hearken to good advice and something may be done for us; *God helps them that help themselves*, as poor Richard says.

“It would be thought a hard government that should tax its people one-tenth part of their time, to be employed in its service, but idleness taxes many of us much more; sloth by bringing on diseases, absolutely shortens life. *Sloth, like rust, consumes faster than labor wears, while the used key is always bright*, as Poor Richard says. *But dost thou love life, then do not squander time for that is the stuff life is made of*, as Poor Richard says. How much more than is necessary do we spend in sleep, forgetting that *The sleeping fox catches no poultry*, and that *There will be sleeping enough in the grave*, as Poor Richard says.

“*If time be of all things the most precious, wasting time must be*, as Poor Richard says, *the greatest prodigality*, since, as he elsewhere tells us, *Lost time is never found again, and what we call time enough always proves little enough*. Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity. *Sloth makes all things difficult, but industry all things easy*; and *He that riseth late must trot all day, and shall scarce overtake his business at night*; while *Laziness travels so slowly that Poverty soon overtakes him*. *Drive thy business, let not that drive thee*; and *Early to bed and early to rise, makes a man healthy, wealthy, and wise*, as Poor Richard says.

“So what signifies wishing and hoping for better times? We may make these times better if we bestir ourselves. *Industry need not wish, and he that lives upon hopes will die fasting*. *There are no gains without pains*; *then help, hands, for I have no lands*; or if I have

they are smartly taxed. *He that hath a trade hath an estate, and he that hath a calling hath an office of profit and honor*, as Poor Richard says; but then the trade must be worked at and the calling followed or neither the estate nor the office will enable us to pay our taxes. If we are industrious we shall never starve, for *At the workman's house hunger looks in but dares not enter*. Nor will the bailiff nor the constable enter, for *Industry pays debts, while despair increases them*. What though you have found no treasure, nor has any rich relation left you a legacy, *Diligence is the mother of good luck, and God gives all things to industry*. Then *plow deep while sluggards sleep, and you shall have corn to sell and to keep*. Work while it is called to-day, for you know not how much you may be hindered to-morrow. *One to-day is worth two to-morrows*, as Poor Richard says; and further, *Never leave that till to-morrow which you can do to-day*.

“If you were a servant would you not be ashamed that a good master should catch you idle? Are you then your own master? Be ashamed to catch yourself idle when there is so much to be done for yourself, your family, your country, and your king. Handle your tools without mittens; remember that *The cat in gloves catches no mice*, as Poor Richard says. It is true there is much to be done, and perhaps you are weak-handed, but stick to it steadily and you will see great effects; for *Constant dropping wears away stones*; and *By diligence and patience the mouse ate in two the cable*; and *Little strokes fell great oaks*.

“Methinks I hear some of you say, ‘Must a man afford himself no leisure?’ I will tell thee, my friend, what Poor Richard says: *Employ the time well, if thou meanest to gain leisure; and, since thou art not sure of a*

minute, throw not away an hour. Leisure is time for doing something useful; this leisure the diligent man will obtain, but the lazy man never; for *A life of leisure and a life of laziness are two things.* Many, without labor, would live by their wits only, but they break for want of stock; whereas industry gives comfort and plenty and respect. *Fly pleasures, and they will follow you. The diligent spinner has a large shift; and now I have a sheep and a cow, everybody bids me good morrow.*

II.

“But with our industry we must likewise be steady, settled, and careful, and oversee our own affairs with our own eyes, and not trust too much to others; for, as Poor Richard says:

*I never saw an oft-removed tree
Nor yet an oft-removed family,
That throve so well as those that settled be.*

“And again, *Three removes are as bad as a fire;* and again, *Keep thy shop and thy shop will keep thee;* and again: *If you would your business done, go; if not, send.* And again:

*He that by the plow would thrive,
Himself must either hold or drive.*

And again, *The eye of a master will do more work than both his hands;* and again, *Want of care does us more damage than want of knowledge;* and again, *Not to oversee workmen is to leave them your purse open.* Trusting too much to others' care is the ruin of many; for *In the affairs of this world men are saved, not by faith, but by the want of it;* but a man's own care is profitable; for *If you would have a faithful servant, and one that you like, serve*

yourself. A little neglect may breed great mischief; for want of a nail the shoe was lost; for the want of a shoe the horse was lost; and for want of a horse the rider was lost, being overtaken and slain by the enemy; all for want of a little care about a horseshoe-nail.

III.

“So much for industry, my friends, and attention to one’s own business; but to these we must add frugality, if we would make our industry more certainly successful. A man may, if he knows not how to save as he gets, keep his nose all his life to the grindstone, and die not worth a groat at last. *A fat kitchen makes a lean will;* and

*Many estates are spent in the getting,
Since women for tea forsook spinning and knitting;
And men for punch forsook hewing and splitting.*

If you would be wealthy, think of saving as well as of getting. The Indies have not made Spain rich, because her outgoes are greater than her incomes.

“Away then with your expensive follies, and you will not then have so much cause to complain of hard times, heavy taxes, and changeable families; for

*Women and wine, game and deceit,
Make the wealth small and the want great.*

And further, *What maintains one vice would bring up two children.* You may think perhaps that a little tea, or a little punch now and then, diet a little more costly, clothes a little finer, and a little entertainment now and then, can be no great matter; but remember, *Many a little makes a mickle.* Beware of little expenses: *A small leak will sink a great ship,* as Poor Richard says; and again, *Who dainties love, shall beggars prove;* and moreover, *Fools make feasts and wise men eat them.*

“Here you are all got together at this sale of fineries and knickknacks. You call them *goods*; but if you do not take care they will prove *evils* to some of you. You expect they will be sold cheap, and perhaps they may for less than they cost; but if you have no occasion for them they must be dear to you. Remember what Poor Richard says: *Buy what thou hast no need of, and ere long thou shalt sell thy necessaries.* And again: *At a great pennyworth pause a while.* He means that perhaps the cheapness is apparent only, and not real; or the bargain, by straitening thee in thy business, may do thee more harm than good. For in another place he says, *Many have been ruined by buying good pennyworths.* Again, *It is foolish to lay out money in a purchase of repentance;* and yet this folly is practiced every day at auctions for want of minding the Almanac. Many a one, for the sake of finery on the back, have gone with hungry belly and half starved their families. *Silks and satins, scarlet and velvets, put out the kitchen fire,* as Poor Richard says.

“These are not the necessaries of life; they can scarcely be called the conveniences; and yet, only because they look pretty, how many want to have them! By these and other extravagances the genteel are reduced to poverty and forced to borrow of those whom they formerly despised, but who, through industry and frugality, have maintained their standing; in which case it appears plainly that *A plowman on his legs is higher than a gentleman on his knees,* as Poor Richard says. Perhaps they have had a small estate left them, which they knew not the getting of: they think, *It is day, and will never be night;* that a little to be spent out of so much is not worth minding; but *Always taking out of the meal tub, and never putting in, soon comes to the bottom,* as Poor Richard says; and then *When the well is dry, they know*

the worth of water. But this they might have known before, if they had taken his advice. *If you would know the value of money, go and try to borrow some; for he that goes a borrowing goes a sorrowing,* as Poor Richard says; and indeed so does he that lends to such people, when he goes to get it again. Poor Dick further advises and says:

*Fond pride of dress is sure a very curse;
Ere fancy you consult, consult your purse.*

And again, *Pride is as loud a beggar as want, and a great deal more saucy.* When you have bought one fine thing you must buy ten more, that your appearance may be all of a piece; but Poor Dick says, *It is easier to suppress the first desire than to satisfy all that follow it.* And it is as truly folly for the poor to ape the rich, as for the frog to swell in order to equal the ox.

*Vessels large may venture more,
But little boats must keep near shore.*

It is, however, a folly soon punished; for as Poor Richard says, *Pride that dines on vanity sups on contempt. Pride breakfasted with Plenty, dined with Poverty, and supped with Infamy.* And after all, of what use is this pride of appearance, for which so much is risked, so much is suffered? It can not promote health, nor ease pain; it makes no increase of merit in the person; it creates envy; it hastens misfortune.

“But what madness must it be to run into debt for these superfluities? We are offered by the terms of this sale six months’ credit; and that, perhaps, has induced some of us to attend it, because we can not spare the ready money, and hope now to be fine without it. But ah, think what you do when you run in debt; you

give another power over your liberty. If you can not pay at the time, you will be ashamed to see your creditor; you will be in fear when you speak to him; you will make poor pitiful, sneaking excuses, and by degrees come to loose your veracity, and sink into base, downright lying, for *The second vice is lying, the first is running into debt*, as Poor Richard says; and again, to the same purpose, *Lying rides upon Debt's back*; whereas a free-born Englishman ought not to be ashamed or afraid to see or speak to any man living. But poverty often deprives a man of all spirit and virtue. *It is hard for an empty bag to stand up-right.*

“What would you think of that prince or of that government who should issue an edict forbidding you to dress like a gentleman or gentlewoman, on pain of imprisonment or servitude? Would you not say that you are free, have a right to dress as you please, and that such an edict would be a breach of your privileges, and such a government tyrannical? And yet you are about to put yourself under such tyranny when you run into debt for such dress! Your creditor has authority, at his pleasure, to deprive you of your liberty by confining you in jail till you shall be able to pay him.

“When you have got your bargain, you may perhaps think little of payment; but, as Poor Richard says, *Creditors have better memories than debtors; creditors are a superstitious sect, great observers of set days and times.* The day comes round before you are aware, and the demand is made before you are prepared to satisfy it; or, if you bear your debt in mind, the term, which at first seemed so long, will as it lessens, appear extremely short. Time will seem to have added wings to his heels as well as his shoulders. *Those have a short Lent who owe money to be paid at Easter.* At present, perhaps, you

may think yourselves in thriving circumstances, and that you can bear a little extravagance without injury, but —

*For age and want save while you may;
No morning sun lasts a whole day.*

“Gain may be temporary and uncertain, but ever, while you live, expense is constant and certain; and *It is easier to build two chimneys than to keep one in fuel*, as Poor Richard says; so *Rather go to bed supperless than rise in debt*.

*Get what you can, and what you get hold;
'T is the stone that will turn all your lead into gold.*

And when you have got the philosopher's stone, sure you will no longer complain of bad times or the difficulty of paying taxes.

IV.

“This doctrine, my friends, is reason and wisdom; but, after all, do not depend too much upon your own industry and frugality and prudence, though excellent things, for they may all be blasted, without the blessing of Heaven; and therefore ask that blessing humbly, and be not uncharitable to those that at present seem to want it, but comfort and help them. Remember, Job suffered and was afterwards prosperous.

“And now to conclude, *Experience keeps a dear school, but fools will learn in no other*, as Poor Richard says, and scarce in that, for it is true *We may give advice, but we can not give conduct*. However, remember this, *They that won't be counseled, can not be helped*; and further, that *If you will not hear reason, she will surely rap your knuckles*, as poor Richard says.”

Thus the old gentleman ended his harangue. The people heard it and approved the doctrine; and immedi-

ately practiced the contrary, just as if it had been a common sermon; for the auction opened, and they began to buy extravagantly. I found the good man had thoroughly studied my Almanacs, and digested all I had dropped on these topics during the course of twenty-five years.

The frequent mention he made of me must have tired any one else, but my vanity was wonderfully delighted with it, though I was conscious that not a tenth part of the wisdom was my own which he ascribed to me, but rather the gleanings that I had made of the sense of all ages and nations. However, I resolved to be the better for the echo of it, and though I had determined to buy stuff for a new coat, I went away resolved to wear my old one a little longer.

Reader, if thou wilt do the same, thy profit will be as great as mine. I am, as ever thine to serve thee,

RICHARD SAUNDERS.

BUSINESS

SUPPLEMENTARY READINGS

Random Reminiscences of Men and Events

JOHN D. ROCKEFELLER

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